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LUMBER INDUSTRY

PART II. CONCENTRATION OF TIMBER OWNERSHIP IN IMPORTANT SELECTED REGIONS

PART III. LAND HOLDINGS OF LARGE TIMBER OWNERS

(WITH OWNERSHIP MAPS)

July 13, 1914

WASHINGTON
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LETTERS OF TRANSMITTAL.

DEPARTMENT OF COMMERCE,
OFFICE OF THE SECRETARY,
Washington, July 13, 1914.

SIR: I have the honor to transmit herewith Parts II and III of the Report of the Commissioner of Corporations on the Lumber Industry. Part II deals with concentration of timber ownership in important selected regions, and Part III deals with land holdings of large timber owners.

Very respectfully,

WILLIAM C. REDFIELD,
Secretary.

The PRESIDENT.

DEPARTMENT OF COMMERCE,
BUREAU OF CORPORATIONS,
Washington, July 13, 1914.

SIR: I have the honor to transmit herewith the full text of Parts II and III of the Report on the Lumber Industry, made to the President under your direction and in accordance with the law creating the Bureau of Corporations. Part II deals with concentration of timber ownership in important selected regions, and Part III deals with land holdings of large timber owners.

I desire to mention as especially contributing to the preparation of these parts Mr. Walter Y. Durand of this Bureau.

Very respectfully,

JOSEPH E. DAVIES,
Commissioner.

To Hon. WILLIAM C. REDFIELD,
Secretary of Commerce.

LETTER OF SUBMITTAL.

DEPARTMENT OF COMMERCE,
BUREAU OF CORPORATIONS,
Washington, July 13, 1914.

SIR: I have the honor to submit Parts II and III of the Report on the Lumber Industry. The preparation of these Parts was begun by my predecessors in office. Except where otherwise stated, the data are for the period 1907 to 1910.

OWNERSHIP MAPS SHOWING VAST TIMBER HOLDINGS.

Part II continues the subject of standing timber discussed in Part I. It treats of the concentration of timber ownership in selected portions of the timber area, in detail. The concentration is illustrated by elaborate ownership maps of large regions in Washington, Oregon, California, Idaho, and Louisiana, covering 68,000 square miles. This is an area about the size of Missouri. Ownership maps of extensive timber regions have never before been published.

The mapped areas contain 755 billion feet of timber, or one-third of all the privately owned timber in continental United States, exclusive of Alaska.

Ownership in the important timbered regions covered by the maps is highly concentrated. Thus, in the southwestern Washington map area 2 holders have 49 per cent of the timber; in the western Oregon area, 5 have 36 per cent; in the northeastern California area, 6 have 70 per cent; in the redwood area, 10 have over half; and in the north central Idaho area, 4 have 59 per cent.

The control of our standing timber in a comparatively few enormous holdings, speculatively held far in advance of any use thereof, and the great increase in the value of timber, resulting in part from such speculative holding, are underlying facts that will become more and more important elements in determining the price of lumber as the supply of timber diminishes.

EXTENSIVE LAND HOLDINGS OF LARGE TIMBER OWNERS.

Incidental to its study of the concentration of timber ownership, the Bureau has found a corresponding concentration of land ownership, which is suggestive enough to merit presentation. Part III deals with this phase of the subject.

The main fact shown is that 1,694 timber owners hold in fee over one-twentieth of the land area of the entire United States from the Canadian to the Mexican border. In many States these 1,694 own no lands at all. In the 900 timbered counties investigated they own one-seventh of the area.

These 1,604 holders own 105,600,000 acres. This is an area four-fifths the size of France; or greater than the entire State of California; or more than two and one-half times the land area of the six New England States. Sixteen holders own 47,800,000 acres, or nearly ten times the land area of New Jersey. Three land-grant railroads own enough to give 15 acres to every male of voting age in the 9 western States where almost all their holdings lie.

Not all this land is suitable for agriculture. In the South and in the Lake States and in part of the West a large portion of it can be used for agriculture after the timber is removed; but in many parts of the West the land is mountainous and adapted chiefly to reforestation. Much of the railroad-owned land outside the timber regions is arid or semiarid.

In the Upper Peninsula of Michigan 45 per cent of the land is held, mostly in fee, by 32 timber owners. An ownership map of the Peninsula is given. In Florida 52 holders (mostly timber owners) hold one-third of the land in the entire State.

PUBLIC-LAND POLICY A CAUSE OF PRESENT CONCENTRATION.

Lavish land grants and loose, ill-enforced land laws are the historical background of the concentration of land and timber ownership shown in this Report. A study of the present ownership of 7,370,000 acres of railroad, wagon-road, and canal grant lands, covering most of the granted lands in the map areas, and a little elsewhere, shows that of these particular lands, granted long ago to single corporations, apparently with the idea that they would be quickly sold to settlers, only 15 per cent are now distributed in small holdings. Eighty-five per cent are owned by the grantees or their successors, or by large timber holders. Of 82,500,000 acres granted to three western railroads in the sixties, the roads still retained 40 per cent in 1910.

Moreover, the States appear to have disposed of the various Federal grants made to them in such a way as to contribute to the concentration of land and timber ownership. Florida is a striking example of this. Again, the public-land laws, the cash-sale law (now repealed), the scrip laws, and the homestead and timber and stone laws operated, at least in timber regions, to transfer Government lands directly or almost directly to great holders.

Ninety-eight per cent of the 1,500,000 acres comprised in the largest timber holding in the Lake States was acquired in a wholesale manner, chiefly from tracts disposed of by the Government through grants to the State or under the scrip and the cash-sale laws.

ECONOMIC EFFECTS OF CONCENTRATION OF OWNERSHIP.

This marked concentration in the ownership of land has two important aspects. The first is the concentration of control of the natural resources, other than agricultural, in the area comprised in these great holdings. Besides its timber now standing, part of the land must be depended on, together with the national forests, to supply future crops of timber. Furthermore, some of it has valuable resources of ores, oil, gas, water power, etc.

The second is the possibility that these holdings, which will form a considerable proportion of the future area used for agriculture in this country, may be retained under concentrated control. Formerly lumbermen often got rid of their cut-over land at nominal prices or let it go for taxes. But as the agricultural possibilities of such land have become apparent this policy is being abandoned. A large part of the present cut-over land is now of considerable value for tillage. That part of the present timberland which when denuded will be arable, will have a higher and higher value as land the longer the timber is kept uncut; because if the timber is held for many years the land when finally denuded will be in greater demand for agriculture. Such a condition suggests the following potential effects upon the public: High prices for land sold to settlers, increase of the tenantry system, or direct farming by large corporations.

The data obtained by the Bureau, so far as land is concerned, are not sufficient for a study of the land problem as a whole. They cover only one class of owners, the timbermen, and only part of the country. They show conditions only at the time of the investigation, and do not show whether the concentration is increasing or decreasing. They are not typical of present conditions in agricultural communities, where the average size of holding is, of course, much smaller. Though incomplete, these data are nevertheless suggestive and worthy of serious consideration.

SUITS TO RECOVER GRANTS OF DISPUTED TITLE.

Most of the land grants were made on conditions, and it appears that in many cases not all of the conditions were complied with. The Government is now attacking some of these grants for alleged violation of the conditions imposed. On July 1, 1913, the Department of Justice obtained a decree in the United States District Court for the District of Oregon adjudging all the Southern Pacific Co.'s lands in Oregon (about 2,400,000 acres with 70 billion feet of timber) to be forfeited to the United States. The case is pending on appeal.

Another very important suit has been started against the Southern Pacific Co. to establish the Government's title to extensive and immensely valuable oil lands in California, claimed by that company though mineral lands were specifically excluded from its grant. If the contention of this suit is established, the same principle will be applicable to large areas of other grants as well. The Government is also suing for the forfeiture of about 100,000 acres (mostly timberland) owned by the Southern Oregon Co. and others.

The abuse of the general land laws in the past suggests that any lands restored to the public domain by these, or other, forfeiture suits should not be disposed of under the present land laws. This principle has been recognized in the act of August 20, 1912, which declares that the Southern Pacific lands in Oregon, if eventually recovered, shall not be subject to entry under any law of the United States. To allow such lands to be taken up by private parties before the revision of the public-land laws has been completed would be to lose much of the public benefit from their recovery.

Very respectfully,

JOSEPH E. DAVIES,
Commissioner of Corporations.

The PRESIDENT.

REPORT OF THE COMMISSIONER OF CORPORATIONS ON THE LUMBER INDUSTRY—PARTS II AND III.

Part II.—CONCENTRATION OF TIMBER OWNERSHIP IN IMPORTANT SELECTED REGIONS.

CHAPTER I.

INTRODUCTION.

Section 1. Purpose of discussion in Part II.

The amount of standing timber in the United States, the concentration of its ownership, and the effect of the public-land policy in furthering that concentration have already been set forth in a broad way in Part I of this Report. That Part showed that four-fifths of the timber supply has passed into private ownership. It indicated what proportion of the supply, within the whole area covered by the Bureau's investigation, has been gathered into a few large holdings. But broad statements like these are inadequate. The statement that the Government owns one-fifth of the timber in the country gives an inaccurate idea of the Government's relation to the timber supply and to the lumber market. Vast as the importance of this public holding is, it does not have the influence in the market which might at first thought be expected from it. It is, in general, less accessible, lighter in stand, and poorer in quality than the privately owned timber. Conversely, the power of the larger private owners is greater than is indicated by the ratio between their holdings and the total supply.

Location, quite as much as quantity and quality, determines the significance of a holding, public or private. Part I, dealing seldom with an area smaller than a State, could not show how holdings public and private are concentrated in particular parts of States, and how greatly this local concentration affects their importance. It is the purpose of Part II to make a more intensive study of the facts as they are found in several of the more important timber regions. The significance of the private control of standing timber thus revealed points to the need of careful consideration to determine the most practical and effective solutions of the public problems involved.

This part rests upon the same basic data as Part I—data obtained by field work from 1907 to early 1910. All the facts are of the years 1907 to 1910 unless otherwise stated. Throughout the report such terms as "recent" and "present" relate, in general, to those years.

Ownership maps of these regions have been prepared by the Bureau, showing the lands owned by the larger holders in each region. The maps cover the greater part of southwestern Washington, western Oregon, northeastern California, northwestern California (the redwood belt), north central Idaho, and west central Louisiana. The Washington and Oregon maps cover chiefly Douglas fir; the California maps, sugar pine, western pine, and redwood; Idaho, white pine; and Louisiana, longleaf yellow pine. The Louisiana map not only shows the degree of concentration, but it also illustrates the thoroughness with which the Bureau made its investigation. On that map are shown all holdings the exact location of which is known to the Bureau. On the other maps only the more important holdings are shown.

Three great holdings are platted separately: (1) the Southern Pacific Co.; (2) the Weyerhaeuser Timber Co.; (3) the Northern Pacific Railway Co. The holdings of these three companies are shown separately on the maps and in the map tables because their great size makes the amount of their timber and the location of their lands of special importance. The estimate of the amount of their timber was obtained from other sources than the companies themselves,[1] and the location of their lands is matter of public record. With these three exceptions, however, the location of the lands and the amount of timber owned by holders are not given separately, but in appropriate groups, the individual tracts not being distinguished on the maps nor the individual estimates in the tables.

These maps give an impression of the degree of concentration now existing in these particular sections of the country. The tables in the text show the actual degree of concentration, and the discussion points out its significance and certain of its causes. Other tables give a view of the importance of the holdings of the same platted holders in other timber regions.

KEY MAPS.—In order to show the location in the respective States of the areas selected for the various ownership maps, rough key maps have been prepared. The locations of all the areas covered by the ownership maps in southwestern Washington, western Oregon, and northern California are shown on the key map of the Pacific coast, facing page 4. This map also indicates the location of national forests. The key maps for the selected areas in Idaho and Louisiana are drawn in small scale directly on the ownership maps.

OWNERSHIP MAPS IN WASHINGTON, OREGON, AND CALIFORNIA.—It will be seen from the first key map that the ownership maps in Washington, Oregon, and California embrace a large part of the Pacific coast territory from Seattle to San Francisco. Between those points they cover most of the important regions of privately owned timber from the Cascades and the Sierras to the ocean. In the forests of the territory covered by these four Pacific coast ownership maps (printed for convenience in nine parts)[1] there stand 685 billion feet of privately owned timber, which is over two-thirds of the privately owned timber in the "Pacific-Northwest" and nearly 40 per cent of that in the entire "investigation area." The "investigation area" comprises three regions: (1) The Pacific-Northwest, a term used for the States of California, Oregon, Washington, Idaho, and Montana; (2) the Southern Pine Region, made up of a small part of Missouri, all of Arkansas, Texas, Louisiana, Mississippi, Alabama, and Florida, and the greater part of Georgia, the Carolinas, and Virginia; (3) the Lake States, embracing all of Michigan, Wisconsin, and Minnesota.[2]

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[1] See Part I, pp. 59-60.

On these four maps the lands of 123 timber holders are platted. These 123 own on the area of these four maps 498 billion feet of timber. This is nearly three-fourths of all the privately owned timber on the area of these maps; nearly one-half of all that in the Pacific-Northwest; and over one-fourth of that in the entire investigation area. But not all of the timber owned by these 123 holders is on the selected map areas. Their total holdings in the investigation area reach the enormous figure of 635 billion feet.

Ownership maps in Idaho and Louisiana.—On the area of the north central Idaho map, which covers an important region of white pine and western pine, there are 29.8 billion feet of private timber. Only seven holdings are platted on the map, but these seven comprise 21.1 billion feet of the total.

The west central Louisiana map area contains about 41 billion feet of timber, largely longleaf yellow pine. Here the lands of 74 holders (all for which plats were obtained) were mapped. These 74 own 33 billion feet of the 41 billion in the map area, and 27 of the larger ones own 28 billion of it.

Summary.—The grand total of all the private timber within the areas of the four Pacific coast maps, the Idaho map, and the Louisiana map is roundly 755 billion feet. The total number of platted holders, omitting duplications, is 198. These 198 own on these map areas 552 billion feet out of the total of 755 billion. That is, 552 billion feet is the amount of timber standing on the lands platted to corporate and individual holders on the maps in Part II.

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[1] The four Pacific coast maps referred to are as follows: (1) Southwestern Washington; (2) Western Oregon, in four parts; (3) Northeastern California, in two parts; (4) The Redwood Belt of Northwestern California, in two parts.

[2] For exact definition, see Part I, p. 62.

Taking all the platted holders on the western maps, and only the 27 larger ones on the Louisiana map, and omitting duplications, there are 151 platted holders who own 547 billion feet on these great map areas.

Outside the map regions, in the various other parts of the investigation area, these same 151 holders own 158 billion feet, so that their total in the entire investigation area is 705 billion feet. This is practically two-fifths of the 1,747 billion feet of privately owned timber in the area investigated by the Bureau; and one-third of the 2,200 billion feet of privately owned timber, or one-fourth of the 2,800 billion feet of public and private timber, in continental United States exclusive of Alaska.

Section 2. General conditions resulting in concentration of timber ownership.

CONCENTRATION RESULTING FROM RAILROAD LAND GRANTS.—Concentration of private ownership of standing timber is the most important fact illustrated by the maps. Next in importance is the fact that such concentration has largely resulted from the railroad land grants. This has already been shown in its general aspects in the final chapter of Part I, where it was stated that no less than 190,000,000 acres had been granted by Congress to aid the construction of railroads, and that of the 155,000,000 acres of this unforfeited, patents had actually been received by the railroads, up to June 30, 1910, for 113,660,000 acres. The Northern Pacific alone, up to that date, had received 32,600,000 acres, and the railroads of the Union Pacific-Southern Pacific system,[1] 36,300,000 acres; a total for these two great systems of nearly 69,000,000 acres. The estimated area of the original grants for these roads reaches the immense figure of 90,000,000 acres, and the greater part of the 21,000,000 acres remaining unpatented will probably be available for them in the ultimate adjustment of the grants.

The Union Pacific grants had relatively little timber but the Southern Pacific and Northern Pacific grants traversed heavily timbered regions and have had marked effect in the concentration of timber ownership.

The three largest holdings of timber in the entire United States, those of the Southern Pacific Co., the Weyerhaeuser Timber Co., and the Northern Pacific Railway Co., were obtained altogether, or in very large degree, through railroad land grants. The Southern Pacific and Northern Pacific still retain great areas of the timberland granted them, and the Weyerhaeuser Timber Co. purchased 80 per cent of its holding from the Northern Pacific. Since a very large part of the timberland of these three holders lies on the various maps

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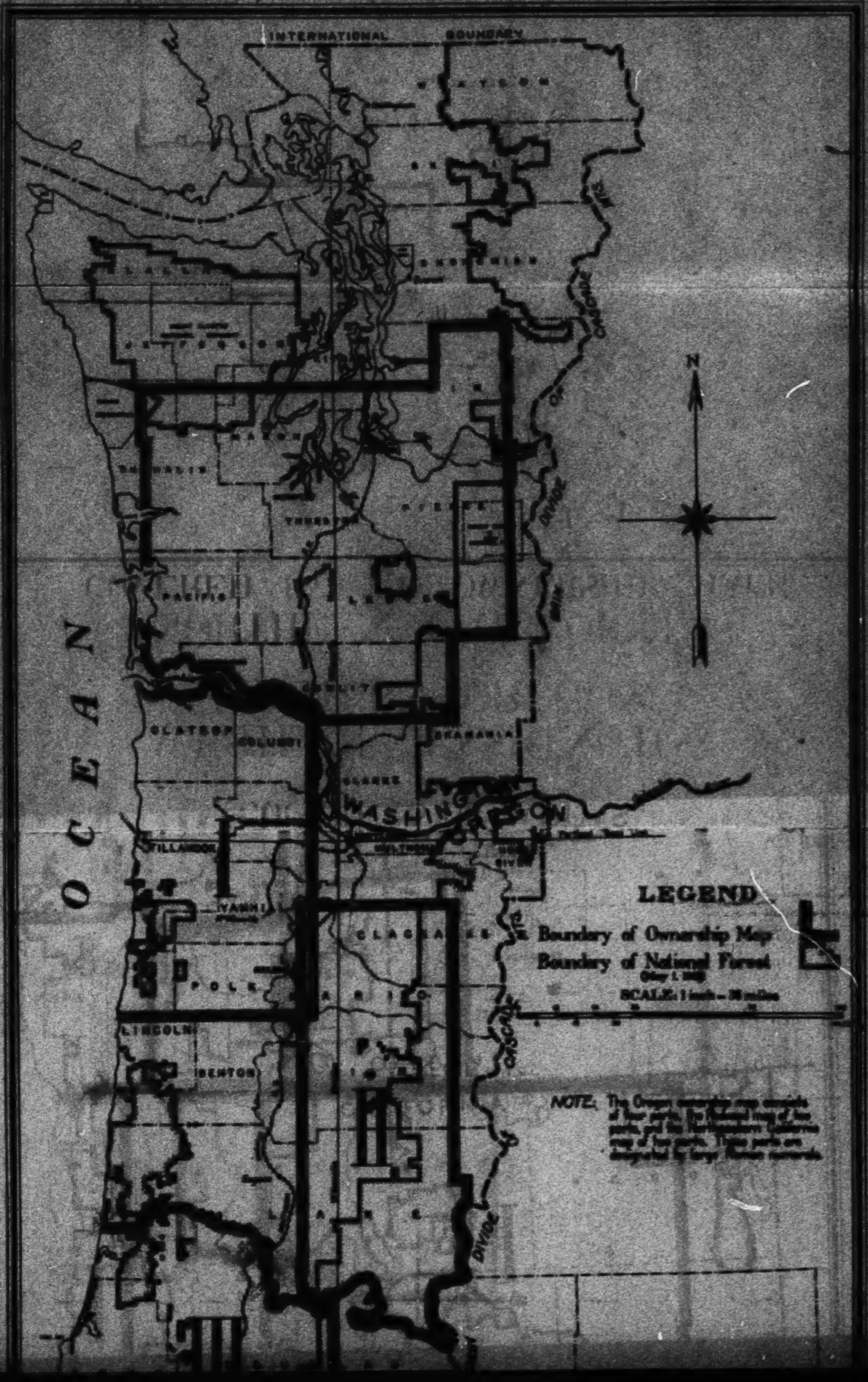
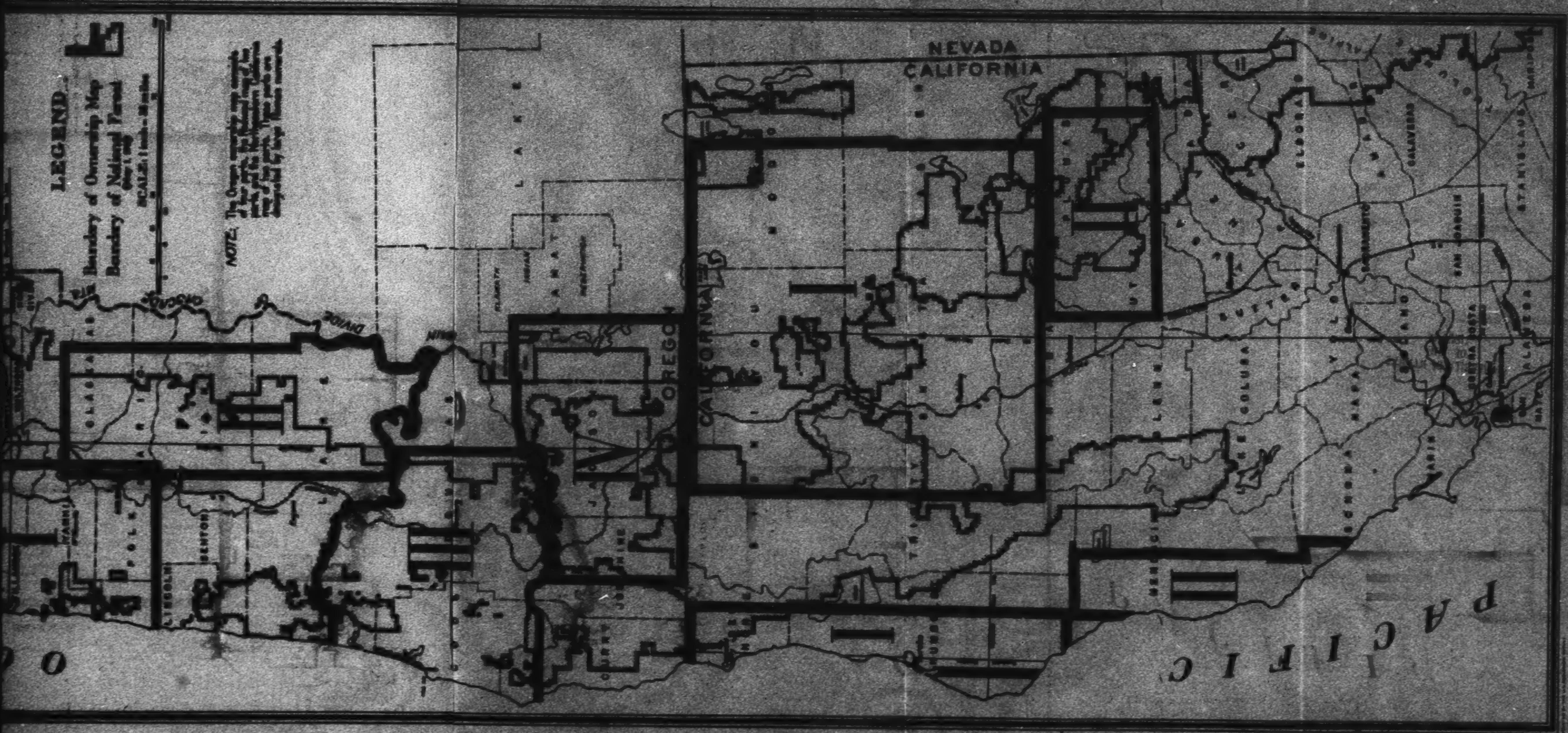
[1] On Dec. 2, 1912, the Supreme Court of the United States declared the Union Pacific-Southern Pacific merger illegal.

LOCATION OF AREAS
IN
WESTERN WASHINGTON
WESTERN OREGON
AND
NORTHERN CALIFORNIA
COVERED BY THE OWNERSHIP MAPS


INTERNATIONAL BOUNDARY
WHATCOM
SKAGIT
SNOHOMISH
CLALLAM
JEFFERSON
MASON
CHEHALIS
THURSTON
PIERCE
KING
PACIFIC
LEWIS
COWLITZ
CLATSOP
COLUMBIA
CLARKE
SKAMANIA
WASHINGTON
OREGON
TILLAMOOK
MULTNOMAH
HOOD RIVER
YAMHILL
CLACKAMAS
POLK
MARION
LINCOLN
BENTON
LINN
LANE
CASCADE MTS
DIVIDE
OCEAN
N
LEGEND
Boundary of Ownership Map
Boundary of National Forest
(May 1, 1913)
SCALE: 1 inch = 32 miles
NOTE: The Oregon ownership map consists of four parts, [illegible] map of two parts, and the Northwestern California map of [illegible] parts. These parts are designated by large Roman numerals.


LEGEND
Boundary of Ownership Map
Boundary of National Forest
SCALE: 1 inch = 20 miles
NOTE:
NEVADA
CALIFORNIA
OREGON
CALIFORNIA
LAKE
KLAMATH
JACKSON
JOSEPHINE
CURRY
DOUGLAS
COOS
LANE
LINCOLN
BENTON
POLK
SISKIYOU
MODOC
TRINITY
HUMBOLDT
DEL NORTE
MENDOCINO
GLENN
COLUSA
BUTTE
YUBA
SUTTER
YOLO
NAPA
SONOMA
MARIN
SOLANO
CONTRA COSTA
ALAMEDA
SAN JOAQUIN
SACRAMENTO
AMADOR
CALAVERAS
STANISLAUS
ELDORADO
PLACER
NEVADA
DIVIDE
CASCADE
PACIFIC
OC

that are presented later, a brief résumé of their entire holdings will be given here.

TIMBER HOLDING OF SOUTHERN PACIFIC CO.—The Southern Pacific's holding is the largest single holding of timber in the United States. Leaving out of account its great nontimbered acreage still retained in southern and central California, and about 551,000 acres of its nontimbered lands in the timber counties covered by the Bureau, the Southern Pacific Co. now holds in Oregon and California timberlands and timber as follows:

TABLE 1.—TIMBER HOLDING OF SOUTHERN PACIFIC CO., BY STATES.

[Timber in billions of board feet. Thus, 70.5=70,500,000,000 board feet.]

States.	Timberland.	Timber.
	Acres.	*Billion feet.*
Oregon	1,907,236	70.5
California	[1] 1,934,580	35.1
Total	3,841,816	105.6

[1] Including 23,000 acres not acquired under the grants and 75,320 timbered acres, with somewhat less than a billion feet, in Washoe County, Nev., just across the State line, which are reckoned with the California total.

The Southern Pacific also has an interest in a timber holding of about 130,000 acres in Texas and Louisiana.

The extent of this vast timber estate may perhaps be better realized by the following illustration: The Southern Pacific mileage from Sacramento to Portland, on the route which determined the location of the grants, is 682 miles. The schedule time of the fastest train over this line is 31 hours. Yet during all that time the traveler is passing through lands a large proportion of which for 30 miles on either side of him belongs to the corporation over whose track he is riding; and in almost the entire strip, 60 miles wide and 682 miles long, this corporation is the dominating owner of both timber and land. How large a proportion is actually owned by it may roughly be judged by a study of the four parts of the Oregon map and of the two parts of the Northeastern California map.

The significance of this substantial monopoly of land and timber is enhanced by the fact that the Southern Pacific also has a practical monopoly of transportation through this entire region. This has enabled the company, among other things, practically to control the commercial and industrial development of the territory tributary to its lines in Oregon and California. It is important to state that on April 29, 1913, the United States district court decided in favor of the Government in its case against the company for the forfeiture of its entire present holding in Oregon on the ground of alleged violation of the conditions of its grants[1]; and on July 1, 1913, the decree was entered adjudging the lands to be forfeited to, and the title to them to be revested in, the United States of America. The case is now pending on appeal.

Holding of Weyerhaeuser Timber Co.—The second largest timber holding in the United States is that of the Weyerhaeuser Timber Co. The total timbered acreage of this company in the States of Washington, Oregon, and California is 1,900,000 acres, carrying over 95 billion feet of merchantable timber as follows:

Table 2.—TIMBER HOLDING OF WEYERHAEUSER TIMBER CO., BY STATES.

[Timber in billions of board feet. Thus, 76.9=76,900,000,000 board feet.]

States.	Timberland.	Timber.
	Acres.	*Billion feet.*
Washington	1,515,932	76.9
Oregon	380,599	18.7
California	4,905	.1
Total	1,901,436	95.7

This does not include 2,559 acres of timberland in Bonner County, Idaho, with a negligible amount of timber; 26,070 acres elsewhere, on which it has sold the timber rights; and 40,904 acres not counted as timbered. It should be particularly noted that this is the total of the Weyerhaeuser Timber Co. and the companies controlled by it. It does not include the further very extensive interests of members of the Weyerhaeuser family nor of their close associates.[2]

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[1] See Part 1, pp. 230 and 290.

[2] The Weyerhaeuser Timber Co. and the concerns in which Frederick Weyerhaeuser and his close associates are interested have in the investigation area no less than 291.9 billion feet of timber. This aggregation of holdings, interrelated but counted as separate, was defined and tabulated as follows in Part I (pp. 181-182):

The companies with which Mr. Weyerhaeuser or some of his associates are identified make an important list of connected interests, which can be discussed best by groups as follows: (1) The Weyerhaeuser Timber Co.; (2) Group A, consisting of other companies in which Mr. Weyerhaeuser is interested; (3) Group B, consisting of companies, other than those in A, in which one or more stockholders of the Weyerhaeuser Timber Co. are interested; (4) Group C, consisting of companies other than those in A and B and the Weyerhaeuser Timber Co., in which one or more associates of Mr. Weyerhaeuser in the companies of Group A are interested. The amount of timber owned by these groups, so far as they are known, is shown below in billions of board feet:

	Total.	Pacific Northwest.	Southern Pine Region.	Lake States.
Weyerhaeuser Timber Co	95.7	95.7		
Group A	49.5	35.3	7.3	6.9
Group B	65.1	48.3	14.7	2.1
Group C	81.6	46.2	29.7	5.7
Total	291.9	225.5	51.7	14.7

This table does not include any of the great railroad holdings.

Eighty per cent of the Weyerhaeuser Timber Co.'s holding was originally part of the Northern Pacific grant. In 1900 it purchased 900,000 acres from the Northern Pacific Railway Co., and subsequent purchases brought the amount acquired from the Northern Pacific up to 1,525,000 acres. Several of the other companies closely associated with the Weyerhaeusers also acquired considerable areas of timberland from the Northern Pacific grant.

TIMBER HOLDING OF NORTHERN PACIFIC RAILWAY CO.—The Northern Pacific's total timbered holding, practically all of which is in the Pacific-Northwest, now amounts to 3,017,000 acres, on which it has 36 billion feet of merchantable timber.

The Northern Pacific's present timber holding is composed of lands *patented* to it and lands *claimed* by it. For instance, much of the company's land, especially within the national forest, is unpatented, even unsurveyed. But this land, if within the primary limits, is nevertheless claimed by the company under its grant, the claim having attached at the date of the definite location of its road through the particular region. In the indemnity limits, however, its right to select lands as indemnity can not attach prior to survey, and can not attach at all if there is any valid adverse claim existing at the time the company makes the selection. The reserving of lands for a national forest prior to their being surveyed constitutes such an adverse claim. Consequently, the railway company can not claim unsurveyed lands within its indemnity strip if they have been withdrawn for a national forest. The amount of unsurveyed land which the Northern Pacific might have found available for indemnity selections, but which has been put beyond its reach by the creation of national forests, is, at a rough estimate, 340,000 acres, carrying in the neighborhood of 11.5 billion feet of timber.

It is important to point out that if the lands in question should for any cause be eliminated from the forest reserves the railroad's right then to select them, on survey, would seem to be unimpaired.

The Bureau's estimate on the Northern Pacific's holding, as carried in the tables, does not include the unsurveyed indemnity lands within the national forests which have just been discussed; nor does it include any lands which the company has sold or contracted to sell. The total holding of the Northern Pacific Railway Co., as carried in the Bureau's tables throughout this report, includes, for the timber area covered: (1) Lands actually owned by this company or its subsidiary, the Northwestern Improvement Co.; (2) surveyed but unpatented lands claimed by the company; (3) unsurveyed lands claimed by the company, to wit, (*a*) within the primary limits all the unsurveyed odd numbered sections, and (*b*) within the indemnity limits such unsurveyed odd numbered sections as do not fall within a national forest; and finally, (4) lands selected by the company for its own use and benefit. Mineral lands were excluded from the grant and the Bureau's figures do not include lands classified as mineral.

For part of the Montana holdings of the company, the Bureau did not obtain data for distinguishing between the patented and the unpatented lands. The following tabular statement shows the timber of the Northern Pacific on patented and unpatented lands in Washington, Idaho, and in that part of Montana where the Bureau could make classification. To the total thus classified is added the amount in that part of Montana where classification could not be made.

TABLE 3.—TIMBER HOLDING OF NORTHERN PACIFIC RAILWAY CO. IN PACIFIC-NORTHWEST, BY STATES, SHOWING AMOUNT PATENTED AND AMOUNT UNPATENTED.

[These figures are based on information of the latter part of 1908, supplemented in certain respects by information obtained in 1909.]

States.	Patented timberland and amount of timber thereon.		Unpatented timberland and amount of timber thereon.		Total.	
	Timberland.	Timber.	Timberland.	Timber.	Timberland.	Timber.
	Acres.	*Billion feet.*	*Acres.*	*Billion feet.*	*Acres.*	*Billion feet.*
Washington	486,877	10.4	1,015,427	14.8	1,502,304	25.2
Idaho	182,505	2.7	141,625	1.8	324,130	4.5
Montana (the portion classified)	480,486	2.6	394,543	2.2	875,029	4.8
Total classified	1,149,868	15.7	1,551,595	18.8	2,701,463	34.5
Montana (the portion unclassified)					277,560	1.7
Total					2,979,023	36.2

This table indicates that out of 2,979,023 acres of timberland held by the Northern Pacific in the Pacific-Northwest, classification can be made by the Bureau of about 2,700,000 acres, on which stand 34.5 billion feet of timber out of the company's total of 36.2 billion. So far as classification can be made, about 45 per cent of the company's timber stands on patented land, and about 55 per cent on unpatented.

Status of Northern Pacific holding constantly changing.—The status of the Northern Pacific Railway Co.'s holding is constantly changing. Lands previously unsurveyed are being surveyed; lands previously unpatented are being patented; contested cases are being settled by the Land Office for and against the company; and the area available under the grant is being defined by decisions of the courts. For these reasons any tabulation of the Northern Pacific's holding or any division of its lands between patented and unpatented is bound to become very soon out of date.

Thus, Moody's Manual[1] for 1910 indicates that during the year ended June 30, 1909, a total of nearly 1,350,000 acres accrued to the company from portions of the original grant not theretofore available to it, as follows: "Resulting from the decision in the Wallula overlap case, 688,711.21 acres; the creation of a first indemnity belt in Wyoming, 51,912.48 acres; the selection of lands in the second indemnity belts in Wisconsin, Montana, Idaho, Washington, and Oregon, 607,959.62 acres; total accruing, 1,348,583.31." On the other hand, Moody's Manual indicates that in 1909 the company deducted from its statement of lands claimed some 340,000 acres of unsurveyed land within the indemnity limits reserved for national forests, which it had previously carried in its land accounts.

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[1] Manual of Railroads and Corporation Securities, 1910, p. 777.

Character of Northern Pacific's timber holding.—The timberland of the Northern Pacific of which it still retains possession is different from that of the Southern Pacific. Until recently the Northern Pacific's policy has been to sell or contract to sell most of its best timber in great tracts, while the Southern Pacific has sold comparatively little. The Northern Pacific's sale to the Weyerhaeuser Timber Co. left it relatively little first-class timber in western Washington, while its sales to various companies in eastern Washington and in Idaho and to the Amalgamated Copper Co. Interests in western Montana have left it only a fraction of the timber which it originally had in those regions. As a result of these sales throughout the timbered expanse of the grant, taking the best timber except in portions of the unsurveyed townships, the average stand per acre on the Northern Pacific's remaining holding is materially lower than that on most of the lands of large holders. Its present policy, it is understood, is to make no further sales of timber.

OTHER IMPORTANT HOLDINGS BASED ON LAND GRANTS.—Many important holdings of less magnitude than the three which have been named above also consist wholly or in large part of lands originally comprised in railroad land grants. The more important of such holdings, so far as they lie within the map areas, will be taken up in the map discussions.

In some cases the foundation of a large timber holding was not in a railroad grant, but in a wagon-road grant. Some of these wagon-road grants were extensive, although much smaller than the two great railroad grants just discussed.

OTHER ASPECTS OF GOVERNMENT LAND POLICY.—The 170,000,000 acres of Federal grants to States for educational and other purposes, the cash-sale law under which probably 150,000,000 acres were disposed of, and the settlement and timber and stone laws have already been described and their general effect on timber concentration have been explained in the closing chapter of Part I. Forcible illustrations of the injurious operation of the State grants and cash-sale law that have come to the Bureau's attention in some of the regions mapped will be discussed in connection with those particular maps.

Section 3. Concentration of ownership and control greater than indicated by tables.

In considering the timber tables that are given in the discussion of each of the areas selected for mapping, two important facts should be borne in mind. The degree of concentration of timber ownership shown in the tables is notable, but the real concentration is materially greater than the tables indicate: (1) In many cases two or more companies that are considered as separate holders by the Bureau are known to have interrelations with each other through minority stock holdings—interrelations probably often strong enough to result in a common policy; and there are many cases where two or more companies probably comprise a single interest through ownership of a majority of their stock by the same persons, but are counted as separate holders because, though the fact that these persons were important stockholders in the different companies was reported to the Bureau, the information was not specific enough to determine that they had a majority interest. (2) The ownership of a large amount of timber often, by its strategic location, gives "control" of a further tributary amount not owned. Both these considerations, though important, are of an indefinite nature, so that the degree to which they actually enhance the concentration shown in the Bureau's figures can not be determined.

As for interrelation between holders counted as separate, a fuller discussion has already been given in Part 1, pages 95 and 96.[1] The number of cases of minority stock interests is very great. The cases vary from a simple interest in a single company that seems to have no other timber-owning connections, to the most complex interweaving of minority interests. Very many holders counted as separate are related, to a degree of complexity that would defy presentation by any other means than the patient statement of each case with all its ramifications.

"CONTROLLED" TIMBERLAND.—"Control" of timberland is a term used to express the idea of domination without ownership. A timber company, by owning the land which gives the only practicable outlet for other timberland lying back of it, may be said to "control" that other land, particularly if it is in relatively small tracts. No other company can successfully enter the field; and the owners of the "bottled-up" land can sell their timber only to the company which has acquired this strategic position. Again, a company may buy around a considerable tract of small holdings so as to completely encircle them with its own lands. Or, in a moderately small "logging chance," by acquiring half or even less of the timber, it may prevent any other company from buying up the rest. In all these cases of control, the company is practically sure of purchasing the controlled lands at its own convenience and almost at its own price.

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[1] Quoted on p. 27 of the present volume.

This control arises from the fact that a small tract can not be economically cut. The great trees of the Pacific coast can hardly be handled at all without such an investment in machinery as implies a regular logging business. In the East or South a small tract can be managed; a small mill can be set up on the ground and the lumber can be hauled out with wagons. But, unless the timber is near a railroad, the expense of hauling will be heavy. A logging railroad through the tract would get the timber out at a much lower operating cost. By so much as the wagon method costs more, by so much the net return for the standing timber will be lessened. But the comparatively small return obtainable in this way is the utmost that the small timber owner, even if he himself is a lumberman, can hope to get by doing his own lumbering. The owner of a large tract can build a logging railroad and a large mill, and increase the return for the standing timber by the whole difference between the cost of getting out the lumber by these means and the cost of getting it out with a small mill and with wagons.

The securing of this advantage is recognized among lumbermen as coming from the ownership of standing timber, and not from the ownership of any lumbering equipment. This is readily seen by supposing the case of two men, one of whom owns a large body of timber and the other a mill and a logging railroad by which the timber can easily be brought out. The mill owner will not be able to buy the timber without paying substantially the "full value" of it; that is, the net amount that can be realized from it by using the most economical means of transportation and manufacture. If the mill owner will not pay substantially this rate, the timber owner will build his own mill and his own railroad.

The small timber owner has no such choice. Unless he is so fortunate as to be within the range of two large competing buyers, the advantage in bargaining is all against him. He must sell for what his large neighbor will pay, or hold his timber, or depend on getting it out with uneconomical equipment. If he refuses to sell till the neighboring company has cut all around him, and his tract is left isolated, the logging railroad will be torn up and the company will no longer care to buy at any price. His timber is likely to be burnt when fire runs through the slashing of the company's logging; or, no longer protected by surrounding forest, it may be destroyed by wind. If he is wise, he will sell before the company finishes its cutting near him. He is not in a position, therefore, to haggle for much more than he could get out of his timber by independent cutting. The company has no reason for paying much more. If it does not get a particular tract it loses nothing but the possible profit on that tract. If it bids up the price on one tract, it not only loses part of the possible profit on that, but furnishes an example which will make it hard to keep down the price on other near-by holdings.

Ordinary business prudence leads each company to avoid isolated tracts in territory which another company dominates. In a borderland fairly accessible to two companies there may be active competition, and then a small owner may get approximately the "full value" of his timber, as that phrase is defined above; but even in such regions competition is often suppressed by tacit or explicit understandings between the buyers.

In great part, however, this advantage comes to the large timber owner from the circumstances of the case, without any need of agreements. Moreover, it does not come to him because of any social service, such as the felling of trees or the manufacture of lumber. It comes to him purely and solely in his capacity of timber owner. It is in the strictest sense an "unearned increment."

Besides the direct advantage in price, the relation of control gives the larger owner a distinct advantage in enabling him to choose his own time for buying. The controlled timber can not get away from him. If he prefers to extend his investment in other directions he can let that wait till he is ready to cut it, secure in the knowledge that, whenever he is ready, he can add it to his holding at a price that will justify him in crediting up a substantial profit at the moment of the transfer.

Examples of control of timberland.—Instances of such control are as follows: One holder owning one and a half billion feet in a certain region so controlled the situation that it considered its total supply of timber to be double the amount it owned, and made a practice of buying each year an amount of this controlled timber equal to the amount of its annual cut, thus maintaining the size of its holding unchanged. Two large purchasers of timberland in a certain county are reported to have divided the territory, one purchasing the alternate sections in the northern townships of the county, and the other those in the townships farther south. In this way they succeeded in heading off, in this instance, certain small operators, and each, without interference from the other, acquired control of an area equal to that which he owned. Another company owning over 8 billion feet of timber estimated that it controlled besides about a billion and a quarter feet belonging to the small holders in its territory. The company considered that it would be certain to pick up this timber in the course of its lumbering operations, since it could not be handled advantageously by any other operator.

Another company owning nearly 600 million feet of yellow pine stated in its bond prospectus that the estimates showed that 400 million feet additional yellow pine would be acquired by the company, "since it can be handled advantageously." This statement no doubt indicates that the 400 million feet is in controlled territory. Still another company is reported in a bond prospectus as owning upwards of 2 billion feet in Louisiana and as controlling from 500 million feet to a billion feet more.

It has been stated that when a company is ready to operate it can purchase its controlled timber at much less than the "full value" of the stumpage. Instances of this follow: A company reported that through the control of timberland adjacent to its logging railroad it could buy stumpage at $1 per thousand feet, though worth much more than that to the company. Another company could buy stumpage in the controlled region tributary to its mill at $2 per thousand feet, though uncontrolled stumpage in the same region had been sold as high as $5. Still another company was able to buy stumpage in controlled territory at 90 cents per thousand feet, though the price of surrounding stumpage was as high as $2.50 per thousand feet.

In the case of railroad land-grant holdings, the grantee had no choice but to take alternate sections. Yet the mere ownership of alternate sections throughout a great area was bound to give the railroad a very large degree of control over the other lands in its territory. The fact that the other lands are in many hands while the railroad lands are in one strong grasp is sufficient to give the railroad an immense advantage. Besides, by the right of forest-lieu selection,[1] such a road as the Northern Pacific could materially strengthen its control in the most heavily timbered regions by judicious placing of its selections. The Weyerhaeuser Timber Co. in western Washington and in Oregon, and the various companies in Idaho in which the Weyerhaeusers and their associates are interested, bought large areas of Northern Pacific lands in odd-numbered sections, made further selections in even-numbered sections with Northern Pacific "lieu scrip,"[2] and bought up other lands—all in such a way as to secure not only actual ownership of a very large proportion of the timberland in the regions where their holdings lie, but a very considerable measure of additional power by control.

In western Washington the Weyerhaeuser Timber Co. (alone or in conjunction with other companies powerful in particular districts) is said to practically control the timber situation throughout large stretches of country—for example in the southern part of Pacific County, or in Lewis County.

The following extracts are from statements of well-informed men, as reported by the agents of the Bureau:

"The Weyerhaeuser Timber Co. and the Milwaukee Land Co. control practically all of the timber in the county." [Lewis County.]

"I have nothing against them [the Weyerhaeuser Timber Co.], * * * but it was a bad thing when they bought the Northern

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[1] Defined in Part I, p. 228.

[2] Cf. also Part I, p. 237.

Pacific holdings. * * * It is due to them, of course, that timber has raised in price, but the poor man can not get hold of it. If a man buys the timber on an even section, it is up to him to sell it to the Weyerhaeuser Timber Co., and he can't get as much as the Weyerhaeuser Timber Co. gets for theirs."

"Weyerhaeuser [i. e., the Weyerhaeuser Timber Co.] absolutely controls all the timberland in this county [Pacific County]. They are a hard company to deal with. You can not cross their land without paying them about what the land itself is worth. In the southern part of the county they will not sell any of the timber."

"Weyerhaeuser [i. e., the Weyerhaeuser Timber Co.] absolutely controls the price of stumpage in this county [Pacific County], in fact he owns most of it."

How far this control of timberland not owned enhances the degree of concentration of ownership could not have been determined by any investigation practicable for the Bureau. Nevertheless, the general fact of additional power through control should be held in mind in considering all tables of ownership in this Report.

TENDENCIES TOWARD GREATER CONCENTRATION.—The interrelation of owners counted by the Bureau as separate and the control of timber not owned affect the present situation. The future will be further affected by the fact that the proportion of the timber supply in the hands of small holders is diminishing and must continue to diminish. Two tendencies in this direction deserve particular mention here.

1. Some large holders, who are large lumber manufacturers as well, hold their own timber in great part intact and supply their mills from other sources. One manufacturing company which owns over 5 billion feet has felled no timber for nearly 20 years, but has bought its logs in the open market. Both in the West and in the South many companies make a practice of buying timber rights on small tracts available for their manufacturing needs, and, so far as possible, defer cutting their own large tracts. Much of their current supply of lumber, therefore, is cut from holdings of smaller companies, from little individual tracts, or from controlled timberland of small holders which the operating companies are now ready to buy. On many of the largest holdings no cutting at all is done. Even if such holdings did not absolutely increase, they would, merely by being held uncut, form a larger and larger proportion of the diminishing timber supply.

2. Some large holders are constantly increasing their ownership by three distinct processes: (*a*) Buying up claims and little tracts owned by small individual holders; (*b*) buying more important holdings already assembled by individuals or by smaller companies; (*c*) buying stock of existing companies and so increasing the actual concentration of ownership without any formal transfer of title to land or timber.

Section 4. Extent of private holdings and nontimbered lands within national forests.

Maps of the United States showing the national forests in a solid color often give the erroneous impression that all the land within the reserve boundaries belongs to the Government. A glance at any of the Bureau's detailed ownership maps of regions in the Pacific-Northwest will show that in many parts of the national forests the platted holders alone own a large proportion of the land; and unplatted holders not shown in the timber maps also own lands within the national forest boundaries.

The Forest Service has published a table (June 30, 1909) which serves to correct the erroneous impression referred to above. It showed, for each national forest, the gross area, the privately owned area (that is, the area which the Government had already patented or which had been filed on before the creation of the forest), and the net area of Government land free from any private claim. In the States of California, Idaho, Montana, Oregon, and Washington the gross and net areas and average percentages of privately owned lands within the forest boundaries were as follows:

TABLE 4.—GROSS AREA, PRIVATELY OWNED AREA, NET PUBLICLY OWNED AREA, AND PERCENTAGE OF PRIVATELY OWNED LANDS IN NATIONAL FORESTS OF THE PACIFIC-NORTHWEST, BY STATES.

[June 30, 1909.]

States.	Gross area.	Privately owned area included in gross area.	Net publicly owned area.	Per cent of gross area privately owned.
	Acres.	*Acres.*	*Acres.*	
California	27,968,510	6,410,658	21,557,852	22.9
Oregon	16,221,368	2,559,481	13,661,887	15.8
Washington	12,065,500	2,312,418	9,753,082	19.2
Idaho	20,099,029	1,029,460	19,069,569	5.1
Montana	20,389,696	2,352,468	18,037,228	11.5
For the five States	96,744,103	14,664,485	82,079,618	15.2

The detail in the Forest Service table of which the above figures are a summary showed that out of the 80 national forests listed in these States 60 had within their boundaries more than 5 per cent each of private land. Some of the forests containing the highest percentage of privately owned land were as follows: In California, the Shasta, with 62 per cent of the gross area privately owned, the Tahoe, with 48 per cent, the Stanislaus, with 38 per cent, and the Cleveland, with 30 per cent; in Oregon, the Siuslaw, with 51 per cent; in Washington, the Wenatchee, with 45 per cent, and the Rainier, with 43 per cent; in Montana, the Gallatin, with 34 per cent, and the Missoula, with 30 per cent.

Thus it will be seen that the Government is far from owning solidly the area within the reserve boundaries. The earlier any area was reserved, the fewer were the private lands already patented or entered in that area. In the case of later reservations, it was usually a matter of saving a remnant of a forest tract, or of reserving for future supply a young growth of timber not yet merchantable, where, on account of some former burn, timber locators had passed the land by in search of larger growth.

It should be noted not only that much of the land within the boundaries is privately owned, but also that much of the Government land has little or no merchantable timber on it. A considerable proportion of the area of many reserves is in very high mountainous regions and consists of bare rocks, glaciers, and land above the timber line. Again, the reserves include a considerable area of elevations where the timber is of the subalpine type, much lighter than on the lower slopes, and a considerable area of burned over land. Besides, in those more accessible parts of the national forests where prior to their creation some of the lands were taken up by private individuals, the private holders naturally selected the better and left to the Government the poorer timber. In certain timberless regions, the reserves were created to protect the grass and brush cover by proper grazing restrictions, and thus regulate stream flow.

Of course, there are large areas of excellent timber in the reserves, but taking the good timber, the poor timber, and the timberless lands together, the Government does not have nearly as much timber in the reserves as their area, or even their net area, would at first thought suggest. Thus, while the private owners of timber in the five States of the Pacific-Northwest have 1,018 billion feet of timber on about 31,620,000 acres, the Government has on the 82,080,000 acres constituting the net area of the forest reserves of the same States only in the neighborhood of 440 billion feet. That is to say, the national forests in these States have only about three-sevenths as much timber as the private holdings have, though they contain over two and one-half times as much land. If the *timbered* area of the national forests were known, the average stand on the part covered with timber would, of course, be much closer to the average stand on the timbered area held by private owners, though by no means equal to it.

Since June 30, 1909, the date of the tabular statement on page 15, there have been many changes in the national forest area, both by additions and by eliminations. In the areas selected for mapping in this Part, however, there were no changes between June 30, 1909, and May 1, 1910 (the date to which the boundaries were corrected on the maps), except for trifling eliminations in the Idaho area.

Section 5. General explanations.

The six ownership maps will be separately discussed in the following chapters. A few explanations of general application may conveniently be given here.

"PLATTED" AND "UNPLATTED" HOLDINGS.—In each map discussion, the holdings in that map area are grouped as "platted" holdings and "unplatted" holdings. By "platted holdings" is meant those whose location is shown on the map. Except in the Louisiana map, only the very large holdings have been shown; for the purpose is to show how high a proportion of the area is in the hands of a few. The rest of the holders, including some that own very considerable tracts, are termed "unplatted." The terms "platted" and "unplatted" refer only to the ownership map in question. Thus, a holder platted on the Washington map may be an unplatted holder on the Oregon map, or vice versa. On each map the Bureau has the location of a great many "unplatted" holdings that could have been platted if the purpose had been, as in Louisiana, to show all the holdings for which the Bureau had plats.

"ADDITIONAL" LAND AND TOTAL ACREAGE.—The term "additional" as used throughout this Report covers all the fee land reported other than that bearing merchantable timber. Thus it includes young-growth timber, denuded land, open prairie or swamp land, etc. The maps in showing the platted holdings do not distinguish the fee merchantable timber land from the timber rights, nor do they distinguish the "additional" land, all these classes of land being given the same symbol. In each map discussion, however, one of the tables distributes the land of the platted holders on the map into these various classes. It also classifies the lands of the unplatted holders of over 60 million feet. Another table in each discussion shows, for the platted holders alone, the total acreage they hold in the entire investigation area, distributing it into the same classes.

These total-acreage tables need a word of explanation. On the one hand it must be kept in mind that the total acreage figures include the timber rights, which must be deducted if one wishes to get the total fee holdings. On the other hand, the figures for "additional" land (and consequently for total acreage) are believed to be, in general, incomplete; and in a few important instances are known to be so. The reasons for believing that the Bureau's data on additional lands are incomplete have been referred to in Part I (p. 162). The information obtained was limited to such additional lands as are held in connection with the timber holdings or in the immediate vicinity thereof; and did not extend to any lands that timber holders or their subsidiaries might have outside the investigation area nor to lands they might have in large timberless regions within the investigation area.

In a very few important cases the Bureau learned, mainly from published sources, the total amount of land owned by certain timber holders who also have large acreages in the nontimbered regions. The general acreage tables of the Report, however, omit their lands in these regions because similar information was not specially sought for all holders. These known omissions amount to over 27,000,000 acres held by 5 owners, chiefly the Southern Pacific, the Northern Pacific, and the Atchison, Topeka & Santa Fe.

GOVERNMENT SURVEY METHOD OF DESIGNATING TOWNSHIPS AND SECTIONS.—For the aid of readers not familiar with the system of Government land survey, which obtains in all States covered by maps in this part, a brief explanation of the numbering of ranges and townships, the method of identifying land, and the scale of the maps is given on page 22 in the discussion of the first map—that of southwestern Washington.

METHOD OF DESIGNATING SURVEYED AND UNSURVEYED AREAS ON THE MAPS.—It was not the intention that these maps should show with absolute precision the location of survey lines. The township lines, so far as surveyed, have been indicated by a continuous light line. These lines have been made as accurate as was possible in the time that could be given to this work, and are as near correct as necessary for the purpose in view. Section lines have not been entered except that on each map, as already stated, a sample diagram township showing sections has been drawn.

It was important that so far as possible unsurveyed areas should be distinguished, since private ownership (other than the holding of land without patent under railroad grants and by means of certain kinds of lieu scrip selections) is not recognized in unsurveyed lands. In cases where there are several adjacent townships which have not been surveyed, the absence of survey is indicated on these maps by the fact that no township lines are shown. Extensive unsurveyed areas of this sort, shown by absence of all township lines, indicate Government land. They are chiefly found within the national forests.

In addition to these larger areas, embracing the greater portion of the unsurveyed lands in the map territories, there were smaller scattered areas unsurveyed—portions of townships, or rarely a whole township the interior of which was entirely unsurveyed, though the outer boundaries were surveyed. In certain cases it was impossible to indicate these minor unsurveyed areas.

As stated above, a continuous line of light weight has been used for the boundaries of the township square where those boundaries have been entirely surveyed. The same style of line has been used to inclose surveyed parts of townships where only a portion of a township boundary has been surveyed, the remainder of the township square being completed by a broken line, which thus indicates absence of survey. If a county boundary or a national forest boundary coincides with an unsurveyed township line (that is, a broken line), no attempt is made to indicate the absence of survey.

It was not possible upon the scale adopted for the maps—which is as large as could well be used—to give with precision the small fraction of the platted holdings comprised in lots and bits of irregular survey. The Bureau's original reports of locations were in many cases made on diagram township plats, and some lots and irregular survey fractions may have been omitted or inaccurately located on the original reports. Where the Bureau had locations of lands in the form of legal descriptions, the position of lots was determined if survey prints of the townships were readily available, otherwise the lots were omitted from the map. It did not seem worth while to give the additional time that would have been required to obtain accuracy in these minor respects, since, for the purposes in view in this report, such extreme precision was not at all necessary. Apart from these minor points mentioned, however, great care was taken in the location of boundaries and in platting.

CHAPTER II.

CONCENTRATION OF TIMBER OWNERSHIP IN SOUTHWESTERN WASHINGTON.

Section 1. Amount and general distribution of timber in State of Washington.

The privately owned timber in the State of Washington is 294.6 billion feet. In this respect the State ranks second in the Union.

This timber lies in two distinct timber regions separated by the Cascade Mountains. This range, crossing the State from north to south, causes a marked difference in climate and rainfall, and consequently in species of timber and heaviness of stand between the eastern and western portions.

East of Cascades.—In Washington east of the Cascades the characteristic species of timber is western pine, everywhere mixed with some larch, Douglas fir, and other minor woods. The stand is relatively light as compared with that of the western part of the State. In extreme southeastern Washington there is a very small amount of timber, mostly included in the Wenaha National Forest. In the northeastern corner of the State, northern Spokane County and Stevens County have a considerable timbered area. This is mainly western pine, but the white-pine belt of Idaho crosses the State line and covers part of eastern Stevens County. The western pine stretches westward from Stevens County through the northern part of Ferry County, and continues somewhat scatteringly through Okanogan County to the Cascade divide, and southward along the eastern slope of the Cascades, from Okanogan County on the north to Klickitat County on the south. The timber on the mountain slopes at first is quite heavy, including a considerable proportion of Douglas fir; but eastward toward the Columbia River it becomes lighter and runs more to pine. South of Chelan County on both sides of the Columbia, there is a widening area of open nontimbered land. On the west this open region comprises a large part of Kittitas, Yakima, Klickitat, and Benton Counties, and on the east it comprises the great prairie region known as the Big Bend Country.

Roughly, the location of the timber of eastern Washington may be described as a rather narrow crescent bending to the north above a vast nontimbered section. Though the eastern part of the State is far larger in land area than the western, it has only 24.1 billion feet of privately owned timber, or 8 per cent of the total privately owned in the State.

WEST OF CASCADES.—That part of Washington which lies west of the Cascades contains 270.5 billion feet of privately owned timber, or 92 per cent of the total privately owned in the entire State. The characteristic species of timber in most of western Washington is the Douglas fir, with cedar, hemlock, true firs, etc., in minor proportions. Considerable amounts of spruce are found in regions bordering the ocean. The ownership map of southwestern Washington (facing p. 44) covers most of the southern part of western Washington.

The northern part of western Washington has less compact stretches of timberland than are found in the map area. There is, however, heavy timber, privately owned, in western Jefferson County and western and northern Clallam County, in the belt along the ocean and the Straits of Juan de Fuca. There is another important belt of privately owned timber in Snohomish and Skagit Counties eastward from Puget Sound to the forest reserves, and to a certain extent within the reserves; and a smaller body of good timber in Whatcom County. There is some heavy timber on privately owned lands within the forest reserves in King County, east of the map area. In the same region the Northern Pacific has a large area, mostly of unsurveyed lands, some carrying heavy timber and some light. To the southeast of the map area there is a belt of privately owned timber in southern Skamania County and eastern Clarke County.

There is a large burned region in Whatcom County; and considerable land in Skagit, Snohomish, Kitsap, and eastern Jefferson and Clallam Counties has been logged. In general the timber along the shores of Puget Sound has been cut over.

Section 2. General explanation of ownership map of southwestern Washington.

AREA COVERED.—This map covers most of the southwestern part of the State of Washington, from the latitude of Tacoma south to the Columbia River, and from range 9 E. to range 10 W.—a territory about 100 miles from north to south by 115 miles from east to west. The inset in the left-hand corner shows besides an area of 12 townships east of Seattle and adjoining directly the northeastern part of the main body of the map. The total map area embraces all of Thurston County, all of Wahkiakum County, the greater part of Pacific, Chehalis, Mason, King, Pierce, Lewis, and Cowlitz Counties, and portions of Skamania and Kitsap Counties. It covers the largest stretches of virgin timberlands privately owned in the State of Washington. On its area stand 166 billion feet of privately owned timber, which is 56 per cent of the total of such timber in the State; and 61 per cent of that in western Washington. The platted holdings on the map amount to 2,599,111 acres, of which 2,410,628 acres, or over 92 per cent, are timbered.

The range and township numbers are entered in the margin of the map. In Government survey, townships are numbered and identified according to their position in relation to certain established meridians and base lines. The Willamette meridian—with reference to position east and west of which all ranges in the States of Washington and Oregon are numbered—is shown running north and south near the center of the map. The townships in each range are numbered consecutively north and south from the Portland base line, thus: 1 north, 2 north, etc., and 1 south, 2, south, etc. (abbreviated 1 N., 1 S., etc.). All townships on the southwestern Washington map are north of the base line. The southernmost tier of townships is 7 N., and so northward to 23 N. (and on the inset to 26 N.). The city of Tacoma, for example, is located in township 20 north, range 3 east (20 N., 3 E.); Olympia, the capital of the State, in 18 N., 2 W.; the peak of Mount Rainier, in 16 N., 8 E.

Each range and each township tier is usually 6 miles in width, since a regular township is 6 miles square. Such a township has an area of 23,040 acres. A sample diagram, indicating how each township is divided into 36 sections, is also shown on the map, being located in 19 N., 2 E., near Tacoma. This system of numbering the sections from 1 to 36 is uniform throughout the Government survey. A section contains normally 640 acres. The Northern Pacific grant has been spoken of as being a grant of odd-numbered sections, that is, of sections 1, 3, 5, 7, etc., to 35. Sections 16 and 36 in each township in public land States were granted to the respective States to provide funds for the public school system and are known as "school lands." (Only section 16 was granted to States admitted before 1848.)

Though county boundaries have been indicated on the map, they have not been named; and to identify them the key map facing page 4 may be consulted. National forest boundaries are indicated by a heavy black line with dots on the inner side. These dots are omitted when they would interfere with the platting of private holdings which adjoin the boundary.

Railroad grant limits.—The legend shows the line used to indicate the limits of the Northern Pacific Railroad grant. These limits are named wherever convenient. The original line of the Northern Pacific Railroad, by the location of which the primary (or 40-mile) and indemnity (or 50-mile) limits of the grant were determined, is shown by name on the map, running from the eastern boundary of the selected area to Tacoma and thence southerly to the Columbia River.

The way in which the grant limits are determined by the course of the railroad is best understood by noticing how the two limits in the southeastern part of the map describe a rough curve governed at first by the distance reckoned at right angles from the road running westward toward Tacoma and then by the distance reckoned at right angles from the road running southward from Tacoma. To the north and west of Tacoma, however, it will be noticed that this results in a western "terminal limit" (running northeasterly from Tacoma) and a northern "terminal limit" (running westerly from Tacoma). The first marks the end of the grant received for the west-bound road to Tacoma; and the second marks the end of the grant for the road between Portland and Tacoma. A southern limit for this latter road will be seen on the map skirting the Columbia River.[1]

In the western part of the map the locations of the 40-mile and 50-mile limits are, of course, governed by the location of the railroad between Tacoma and Portland. The map shows the location of a number of branch lines of the Northern Pacific system and some lines operated by other railroads, but only the main line of the Northern Pacific is named.

PLATTED AND UNPLATTED HOLDINGS.—The lands of only 35 selected private holders, with the lands of the State of Washington itself, are platted on the map. Many other private holders own timber in the region covered. Since, in the tables which are to follow, these unplatted holders are divided into groups and the amount owned by each group is tabulated, it is necessary here to explain the basis on which the Bureau determined which holdings were to be platted and in what groups the other holdings were to be arranged in the map tables.

1. *Platted holders.*—The lands of the Weyerhaeuser Timber Co. are platted in solid black; those of the Northern Pacific Railway Co. in a light single diagonal. These two holdings are shown separately on the map and the amount of timber for each is shown separately in the tables for the reasons stated on page 2. The lands of the group of 33 separate holders are also platted; one symbol, the heavy crosshatch, being used for the lands of all 33, so that no one holding is distinguished from any other. In the tables, similarly, the acreage and estimates for the 33 are shown, not for each holder separately, but for the group as a whole.

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[1] Though called a terminal limit this irregular line is really the boundary of the Oregon Central R. R. grant, which overlapped the Northern Pacific grant from this line southward to Portland. The Oregon Central grant was in part subsequently forfeited, but its line had been definitely located so that its right to the lands in the overlap had attached prior to the Northern Pacific's right. Lands within its limits, therefore, though forfeited by it, were not available to the Northern Pacific. The true terminal of the Northern Pacific line is at Portland, but the line shown on the map is its limit for the practical purpose of showing the area within which it received land.

As a rule the holders whose lands are platted on the map are the largest holders in this region, yet it must not be inferred that every platted holder has a larger amount of timber than any unplatted holder. A very few holdings have been platted whose timber on the map area amounts to less than that owned on the map area by certain unplatted holders. This was done purposely, and in the table the upper limit of the first group of 27 unplatted holders was purposely omitted, in order that no fixed amount of timber could be taken as the limit between platted and unplatted holdings. If such a limit were determinable it might furnish to interested persons a clue to the amount of timber owned by some of the smaller platted holders whose estimate might be only slightly above that limit. Again, the group of 33 must not be regarded as including all the very large holders in the State. There are other holdings in the State far larger than some of those platted on this map—holdings which lie altogether or mostly outside the selected area. This follows from the fact that the selection of holders for platting was made with sole reference to the amount of timber they own on the map area, not to that they own in the State.

Lands held by the State of Washington are platted with a letter "S," indicating State. (The "S" is placed horizontally for the lands on which the timber rights have been sold and upright for lands on which timber rights have not been sold.) This large publicly owned acreage was platted because it was desirable to show the area and location of the State lands, and also because these areas, if left blank, might be thought to represent privately owned timberlands belonging to the unplatted holders.

2. *Unplatted holders.*—The unplatted holders are divided into two classes: First, those owning over 60 million feet each on the map area (114 in number), who in turn are divided into several groups; and, second, those owning less than 60 million feet each on the map area.

As already explained,[1] the term "unplatted" does not necessarily mean that the Bureau has no plats of the location of such holdings. They are not platted simply because it is not the purpose of the map to show them. For practically all the holdings of over 60 million feet the Bureau has plats. The great majority of the holders of less than 60 million feet each, however—mostly individuals, each with his homestead or timber claim of 160 acres more or less—were covered in the Bureau's investigation by tabulations compiled from the official county cruises or by general estimates of well-informed cruisers, and no separate record or plats of ownership were kept.

"LITTLE OR NO TIMBER" AREAS.—Whatever timberlands are owned on the map area by the unplatted holders of the classes and groups mentioned in the last paragraph must obviously lie somewhere in the spaces not occupied by the symbols of platted holders. In order to guard against a false impression of the extent of unplatted timber holdings, the more important areas which can properly be described (according to the standards commonly accepted by lumbermen in western Washington) as having little or no timber have been so noted on the map. These notations of "Little or no timber" must not, however, be construed too broadly. The general size of each of these areas has been suggested by the size of the lettering. The "Little or no timber," when in smaller characters and stretched across a township, indicates a somewhat narrow strip in that portion of the township. If the description is appropriate to the whole township the size and position of the lettering suggests that fact.

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[1] Page 17.

The determination of the areas thus designated was arrived at from the cruises made by the county officials and from the best available local information. Though in the areas so marked there are, of course, parts of sections (and perhaps here and there in the larger areas a whole section) which have a much heavier stand per acre, it is believed that for the whole area covered by any particular notation the statement is approximately correct. The purpose of these notations is not to define with precision the areas involved, but only to mark off in a general way certain portions of the map that are of no importance for timber.

It is characteristic of this western Washington region that most of the logging, until recent years, has been along the ramifications of Puget Sound, along the Columbia River and other important streams, and along railroad lines. That is, only timber easily accessible was logged. In the past few years, however, there has been a greater development of the logging railroads necessary to open up large and remote bodies of timber otherwise inaccessible. In distinction from the logged lands, there are, of course, from place to place, especially from Tacoma southward to the Columbia River, considerable areas of open prairie land and meadows, which bear no timber.

UNPLATTED PRIVATELY OWNED LANDS WITHIN NATIONAL FORESTS.—Though there are large blank unplatted spaces within the national forests on the eastern side of the map, and in the northwestern part, there are relatively few timberlands—only about 25,000 acres—privately owned by unplatted holders in those areas. A large amount of land within the national forests is held by the Northern Pacific and some by other platted holders, but most of that not platted to these holders belongs to the Government. This is due to the fact that the national forests in this part of the State were created comparatively early, and, except for the grant to the railroad, the Government had alienated very little land within the reserve limits. The fact that many townships had not been surveyed at the time of the creation of the reserves contributed to prevent acquisition of land by settlers. The detached part of the Rainier National Forest in the east central part of the map, covering townships 13 and 14 N., in ranges 3 and 4 E., was recently added to the reserve, but timber locators had not been attracted thither because the stand of timber is relatively light on account of an old burn. Consequently there are few private holders there except the Northern Pacific, which claims the odd sections under its grant.

As shown in the table on page 15, the privately owned land in the national forests of the State of Washington is 19.2 per cent of the gross area within the national forest boundaries. In the Olympic, Snoqualmie, Rainier, and Columbia National Forest—parts of each of which appear on the map area—the percentages of privately owned land (June 30, 1909) were as follows, in each case for the entire forest:

	Per cent of gross area privately owned.
Olympic	11.2
Snoqualmie	28.8
Rainier	43.1
Columbia	20.5
For the four forests	26.4

In the last three forests named the railroad grant lands constitute the bulk of what is privately owned.

DIFFERENCES BETWEEN DATA ON MAP AND IN TABLES.—The map shows nothing as to the stand of timber; a piece of land platted with one symbol may have many times as much timber as an equal area platted with another symbol; and the tables alone can show the true concentration of timber ownership. In connection with the use of Table 5 in the following section, the reader should be cautioned that while the map shows *all* the lands of the platted holders, Table 5 shows only their *timberland;* that is, land bearing merchantable timber. Table 6, page 34, shows the *total* acreage held, and so corresponds to the map.

Lands aggregating close to 100,000 acres, which are really part of the holding of the Weyerhaeuser Timber Co., have not been platted on the map with the solid black symbol of that company, but instead, for reasons explained on page 29, have been platted with other symbols.

Finally, it should be remembered that there is a small percentage of timbered acreage on the map area which is held by lease of the timber rights while the land itself is not owned by the timber holders. This ownership of timber rights without land is distinguished in footnotes to the tables, but is not distinguished on the map.

Section 3. Concentration of timber ownership in area of Washington map.

As already noted, 56 per cent of the privately owned timber in the entire State and 61 per cent of that in western Washington stands within the boundaries of this map.

That the 35 platted holders have a large proportion of the land surface of this great selected area, the first glance at the map will tell. With a rough allowance made for the areas held by the State and the Government and for "little or no timber" areas, the graphic argument of the map is still stronger. But the true degree of concentration of ownership of timberland and timber can only be stated in tabular form. Table 5 shows the timberland and timber held on the map by all private holders—by the 35 platted holders and by the four groups of unplatted holders. It excludes the acreage owned on the map by the State (approximately 412,000 acres; see p. 44), and also excludes Government land. It shows what percentage of the total privately owned timber on the area is owned by the separately stated holders and groups. The concentration here shown means that a few holders control the most important source of lumber supply in this State.

To guard against possible misunderstanding as to what constitutes a "holder" in the sense in which the word is used throughout this report, it is well to repeat here two paragraphs given in Part I, pages 95 and 96, on this point:

> There is a remarkable interweaving of interests among owners of timber, individual and corporate. It often happens that only a fraction of the timber under one control is held in any one name. Most of the important owners refused to furnish the information necessary to reveal the great concentration of control through personal and corporate relations. Yet only answers on this point (see question 7 of schedule, p. 275) would reveal the true concentration of the ownership of timber. Persistent effort was made to secure the information on stock holdings from those concerned and from others who might know the facts, and, as is shown below, separate owners of record were consolidated wherever sufficient evidence of one controlling interest was obtained. But nothing short of access to the stock books of all important timber-owning corporations would show the true situation. Therefore the degree of concentration set forth in this report is certainly much below that which actually exists.
>
> Some corporations gave the information regarding stockholders and stock interests in other corporations; some individuals stated, apparently in good faith, their stock holdings in corporations connected with the lumber industry; and from independent sources some specific facts and much general information were gathered. This evidence was carefully considered, and where it was sufficient to show a common control through ownership the separate holdings so controlled were combined and treated as one in the tables of this chapter. Such combinations were not

made because of mere common management or harmonious operation. The test was that of actual control through ownership of at least half the stock by the interest in question. If an individual owning timber had at least half the stock of a timber-owning corporation, the two holdings were combined as one. A corporation was combined with others in which it held a majority of the stock. In a number of important cases, the same few individuals appeared in several corporations as holding a majority of the stock in each, and the corporate holdings were therefore combined as one.

TABLE 5.—TIMBER ACREAGE AND TIMBER OF PLATTED AND UNPLATTED HOLDINGS ON WASHINGTON MAP, BY GROUPS.

[Timber in billions of board feet. Thus, 70.4=70,400,000,000 board feet.]

Holders.	Number of holders.	Timber acreage [1] owned on map area.	Timber owned on map area.	
			Billion feet.	Per cent of total.
Platted holders:		Acres.		
Weyerhaeuser Timber Co.	1	1,372,474	70.4	42.3
Northern Pacific Ry. Co.	1	306,261	11.1	6.7
Group of 23 holders	23	731,893	39.9	24.0
Total, platted holders	35	2,410,628	121.4	73.0
Unplatted holders (grouped by size of holding on map area):				
27 holders of over 250 million feet each	27	185,272	9.8	5.9
41 holders of 125 million feet to 250 million feet each [2]	41	127,833	7.1	4.3
46 holders of 60 million feet to 125 million feet each	46	99,403	3.9	2.3
Total, unplatted holders of over 60 million feet each	114	412,508	20.8	12.5
Holders of less than 60 million feet each		738,597	24.1	14.5
Total, unplatted holders		1,151,105	44.9	27.0
SUMMARY.				
Platted holders	35	2,410,628	121.4	73.0
Unplatted holders of over 60 million feet each	114	412,508	20.8	12.5
Total, holders of over 60 million feet each	149	2,823,136	142.2	85.5
Unplatted holders of less than 60 million feet each		738,597	24.1	14.5
Total, all holders [3]		3,561,733	166.3	100.0

[1] The figures in this column include 56,875 acres reported as timber rights, as follows: Weyerhaeuser Timber Co., 3,589 acres; group of 23 holders, 26,048 acres; group of 27 holders, 3,680 acres; group of 41 holders, 5,780 acres; group of 46 holders, 6,530 acres; holders of less than 60 million feet each, 3,400 acres.

[2] Includes 28,747 acres and 600 million feet of Northern Pacific "lieu scrip" lands contracted to unidentified holders. Not counted as an addition to the number of holders.

[3] Excludes 9 holders in certain counties of the map area for whom the Bureau had no plats to indicate whether the holdings are in that part of the county which lies in the map area. The total for these 9 holders is 9,919 acres and 500 million feet of timber.

From the above table it will be seen that one holder, the Weyerhaeuser Timber Co., with its 70 billion feet on the area of the Washington map, owns over 42 per cent of all the privately owned timber on that area. Two holders, the Weyerhaeuser Timber Co. and the Northern Pacific Railway Co., with their 81.5 billion feet, own 49 per cent, and the 35 platted holders, with their 121 billion feet, own 73 per cent. If the holdings of 3 important members of the group of 33 holders were segregated and added to the holdings of the Weyerhaeuser Timber Co. and the Northern Pacific Railway Co., the 5 would be found to own 57 per cent of the total timber on the map area, leaving 16 per cent for the other 30 platted holders. Finally, 149 holders own over 142 billion feet, or 85.5 per cent.

Section 4. Holding of Weyerhaeuser Timber Co. on map area. (Map symbol, solid black.)

As stated on page 26, the solid black symbol of the Weyerhaeuser Timber Co. does not cover all the lands which it has on the map area. Over 85,000 acres of Weyerhaeuser timberland are platted with the symbol of the Northern Pacific, and about 15,000 acres are platted with the symbol of the group of 33 holders.

The 85,000 acres which are platted with the Northern Pacific symbol consist of contract lands sold by the Northern Pacific to the Weyerhaeuser Timber Co. before the railroad had itself received patent for them. The location of these particular contract lands (unlike that of the deeded lands) is not available from public sources. It was furnished to the Bureau by the Northern Pacific with the consent of the Weyerhaeuser Timber Co. It was, therefore, not thought proper to plat the contract lands with the solid black symbol, or to show their exact location separately. They have, instead, been platted with the symbol of the Northern Pacific, whose claim to them is matter of public record. On the map these contracted lands are not distinguished from the Northern Pacific lands proper. In the table, however, the contract acreage and the estimated amount of timber thereon are included in the figures for the Weyerhaeuser Timber Co., where they properly belong, rather than in the Northern Pacific figures. In Washington as a whole, the total acreage of the Weyerhaeuser Timber Co.'s contract lands is about 150,000 acres (of which 140,000 acres are timbered). It should be noted that contests often arise between the railway and settlers, and may arise in the case of some of the contract lands here referred to. If the Land Office decision on any given tract goes against the railway, the Weyerhaeuser company will, of course, lose whatever contract rights it now has in that particular piece of land.

That part of the Weyerhaeuser Timber Co.'s acreage which is platted to the group of 33 holders instead of with the solid black symbol of the company itself, represents a recent fairly large purchase. About 15,000 acres of this purchase lie on the map area, and four to five thousand acres of it outside. This land was platted with the group of 33 because the transfer had not been made a matter of public record at the time the data for the map were secured. In the tables the acreage and timber are included in the figures for the Weyerhaeuser Timber Co.[1]

With this purchase and the contract lands, the total of the Weyerhaeuser Timber Co. on the area of the map is 1,372,474 acres of timberland, and 70.4 billion board feet of timber, or over 42 per cent of the total privately owned timber in this area.

This holding illustrates the effect of railroad grants in concentrating the ownership of standing timber. It has already been stated that 80 per cent of the entire holding of the Weyerhaeuser Timber Co. was acquired from the Northern Pacific.[2] On this map area, nearly 90 per cent was so acquired.[3] The predominance of the odd-numbered sections owned by the Weyerhaeuser company is noticeable in the checker-board effect of the solid black. The company's filling in with even-numbered sections forms in some parts a solid black area of considerable size and is usually coincident with a heavy stand of timber. The filling in, here, was in most cases by purchases from others than the Northern Pacific—purchases either of individual timber claims, or of considerable tracts previously assembled in the even-numbered sections by other companies. It will be observed that scarcely anywhere on this map area does the Weyerhaeuser Timber Co.'s holding extend beyond the outer limits of the Northern Pacific grant. The same is true for the relatively small remainder of its holding in Washington, i. e., the part not on the map. This remainder lies in Snohomish County immediately north of the area shown on the inset, except for a few forest-lieu selections farther north in Skagit and Whatcom Counties, quite without the grant limits.

From 1900 on, by reason of its purchase of Northern Pacific lands, the Weyerhaeuser Timber Co. has had a dominant position in southwestern Washington. It has apparently followed a policy of buying such additional heavily timbered tracts already assembled as it could secure advantageously, especially if they would enhance its strategic control. It sells some small and very accessible tracts to operating companies, at the highest market price, but it has refused to sell timber for speculative holding. In other words, its policy has been to make itself the great speculative holder, absorbing the profit from the steady rise of timber values. From these tracts sold at an extremely high profit it has received large sums. In Oregon, where the company is not a dominant holder, its policy has been not to sell at all. (See p. 56.)

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[1] Again, about 4,000 acres in which the Weyerhaeuser Timber Co. has only a half interest are platted on the map with the company's symbol. The remaining half interest is owned by unplatted holders in lower groups. In the tables only one-half of this acreage and timber is counted to the Weyerhaeuser Timber Co., the other half being counted to the joint owners in their proper groups.

[2] Page 7.

[3] Page 37.

ection 5. Holding of Northern Pacific Railway Co. on map area. (Map symbol, light single diagonal.)

The Northern Pacific Railway Co.'s holding on the Washington ap area (including that of its subsidiary, the Northwestern Imrovement Co., all of whose stock it owns) amounts to 306,261 acres f timberland and 11.1 billion feet of timber. The 85,000 acres of Veyerhaeuser contract lands[1] platted with the railway company's ymbol, together with about 50,000 acres of Northern Pacific nonmbered lands, increase the amount actually platted with the light ngle diagonal to nearly 450,000 acres.

The Northern Pacific's lands lie, of course, largely in the oddumbered sections of the grant, though some "lieu selections" lie in e even-numbered sections. The blank areas in Mount Rainier Vational Park, and in the tier of townships immediately north and e tier immediately south of the Park, are explained by the fact that e Northern Pacific relinquished to the Government its odd-numered sections in these townships under the act of March 2, 1899, nd took lieu lands elsewhere, as explained on pages 238 to 240 in art I. These townships formed part of the former "Pacific Forest eserve," created under the act of March 3, 1891.

NORTHERN PACIFIC HOLDING INCLUDES UNPATENTED AND UNSURYED LANDS.—The Northern Pacific's holding is composed of lands *wned* by it and lands *claimed* by it. For example, much of the comany's land within the national forest along the eastern side of the map unpatented and even unsurveyed, but it is claimed by the company nder its grant. This land is platted to the Northern Pacific and edited to it in the tables. The amount of this unpatented land aimed by the company has not been distinguished for the map area. n page 8, however, it has been shown that, roughly, somewhat ore than half of the company's acreage and timber in the investigaon area is unpatented.[2]

CHARACTER OF NORTHERN PACIFIC HOLDING ON MAP AREA.—Since e Weyerhaeuser Timber Co. and other purchasers of granted lands lected the best timberland of the Northern Pacific grant throught southwestern Washington, the present holding of the Northern acific in this area is on the whole of less value for timber than the erage of the other large timber holdings. Part of its land on the ap area is well timbered and part is poorly timbered. Some of the ell timbered land is held in the name of its subsidiary, the Northestern Improvement Co.

In the high mountainous region south of Mount Rainier National ark, eastward from range 7 E., the Northern Pacific lands have a relatively low stand. In township 21 N., 7 E., where the Northern Pacific, through the Northwestern Improvement Co., owns most of the odd-numbered sections, the land was swept by fire many years ago and carries so little timber that it was not classed as timberland in the official cruise by the authorities of King County; in the neighborhood of South Bend on the coast, also, the railway company owns lands that have little timber.

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[1] See p. 29. The 85,000 acres are merchantable timber. Besides there are about 9,000 res of contract land not counted as bearing merchantable timber.

[2] See p. 7 regarding the fact that the Northern Pacific can not take unsurveyed lands the indemnity limits, if within the national forests.

Section 6. Holdings of group of 33 platted holders on map area. (Map symbol, crosshatch.)

The group of 33 platted holders owns on the Washington map area 731,893 acres of merchantable-timber land and 39.9 billion feet of timber. This is 24 per cent of the total timber privately owned on that area. The lands of these 33 separate holders are platted on the map with one symbol—a crosshatch.[1]

Among the important holders in this group are the following: Chicago, Milwaukee & St. Paul Railway Co. interests (holding mainly in the name of the Milwaukee Land Co.); St. Paul & Tacoma Lumber Co. (including its subsidiary, the Connellsville Coal & Coke Co.); Puget Mill Co.; the Simpson, Phoenix, and Mason County logging companies and allied concerns; Merrill-Ring & Co. interests (including Polson Logging Co.); Western Timber Co.;[2] T. D. and E. S. Collins and companies controlled by them; Port Blakely Mill Co.;[3] Great Northern Railway Co. interests;[4] Carlisle-Pennell Lumber Co.; and Grandin Coast Lumber Co. (controlled by the Missouri Lumber and Land Exchange interests, which have large holdings in the Southern Pine Region).

A considerable proportion of the holdings of these 33 companies is scattered in various parts of the map, in the even-numbered sections, among the Weyerhaeuser Timber Co.'s holdings. There are, however, various areas on the map where the grouped holders have timberlands in solid blocks, to the exclusion of the Weyerhaeuser Timber Co.

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[1] As explained above, a certain holding which has recently been purchased by the Weyerhaeuser Timber Co. is platted with this symbol, but in the table the acreage and amount of timber in this purchase are not counted with the group of 33 holders, but to the Weyerhaeuser Timber Co. (See p. 29.)

[2] This company is also an important holder on the western Oregon map area; and the interests controlling the company control the Fir Tree Lumber and Chapman Timber companies owning timber on that area, and control other companies owning in the Southern Pine Region.

[3] Important stockholders of this company are prominently identified with Hobbs, Wall & Co. and Hotchkiss Timber Co., large owners of redwood timber in California.

[4] In accordance with St. Paul, Minneapolis & Manitoba R. R. Co. v. Phelps (137 U. S., 528) and the act of Aug. 5, 1892 (27 Stat., 390) the St. Paul, Minneapolis & Manitoba acquired a right to select 65,000 acres in any State through which its lines ran in lieu of lands lost to its grant in North Dakota, west of Red River. Upon the absorbing of this company by the Great Northern, this right of selection was assigned to the latter company and lands were selected in heavily timbered regions of the State of Washington. The Great Northern also controls the Skagit Coal & Coke Co. and the Somers Lumber Co., which own timber off the map area in western Washington and in Montana, respectively.

The important timber areas where the Weyerhaeuser Timber Co. did not acquire from the Northern Pacific Railway Co. the alternate sections, but where they are owned by members of the group of 33, are as follows: First, southeast of Tacoma; second, in the central part of the map, to the southeast of the city of Chehalis; third, about Silver Lake in the south central part of the map; fourth, along the Columbia River to the north of the terminal limit of the Northern Pacific grant; fifth, in the two townships south of South Bend, near the coast; sixth, a large region within the grant west of Olympia. In many of these regions the grouped holders now owning granted lands had acquired them from the railroad company long before the Weyerhaeusers entered the field. Scattered over the area of the map, the group of 33 now owns other granted lands, lying in smaller bodies than those in the six regions just mentioned.

A table showing the present ownership of the railroad-grant lands on the map area, including those owned by unplatted as well as platted holders, is given on page 35.

Section 7. Unplatted holdings on map area.

On the Washington map area there are holdings to the amount of 1,151,105 acres of timberland and 44.9 billion feet of timber which have not been platted. Though the group of 33 platted holders includes, of course, the more important companies, there are some important holders whose lands are not platted. The unplatted holders are presented in the table in four groups in the order of their holdings on the actual area of the map. All the unplatted holdings taken together comprise only 27 per cent of the total timber on the map area, as against 73 per cent comprised in the 35 platted holdings. The first three groups of unplatted holders own over 60 million feet each on the map area. There are 114 of them, and they own on this area one-eighth of the total timber.

The last group of unplatted holders shown in the table is composed of owners of less than 60 million feet each *on the map area.* Some holders in this group, though having less than 60 million feet on the map area, are really important holders in other regions of the State. The whole group together holds on the map 738,537 acres, with 24.1 billion board feet of timber, or 14.5 per cent of the total timber on the map area.

Section 8. Additional land owned on map area by timber owners of over 60 million feet each.

The discussion up to this point is confined, so far as land is concerned, to *timbered* land. The map itself, however, shows the location of *all* lands owned by the 35 platted holders, whether timbered or not. Some of the holders whose merchantable-timber acreage has been shown in Table 5 have additional acreage which has been reported to the Bureau while others do not. The Bureau's information on the amount of additional land thus held is, in general, not complete, and a statement of the causes of this is given in Chapter I, page 17. The following table shows the merchantable-timber acreage as in Table 5; and the additional acreage, so far as reported to the Bureau, for each holder or group of holders of over 60 million feet each.

All land of each platted holder, whether timbered or not, is platted on the map. Therefore, with the exceptions previously noted[1] the figures in the total column below correspond to the amount of land platted to the holders of the group as closely as survey acreage can be shown on a map of the scale here used.

TABLE 6.—ACREAGE OF TIMBER (INCLUDING TIMBER RIGHTS) AND ADDITIONAL LAND OWNED ON WASHINGTON MAP BY HOLDERS HAVING OVER 60 MILLION FEET EACH ON MAP AREA, BY GROUPS.

[Not all members of a group own additional land. The number of those owning such land is shown for each group, parenthetically in italics, in the additional land column.]

Holders.	Number of holders.	Merchantable-timber acreage.[2]	Additional land reported.	Total on map area.
		Acres.	*Acres.*	*Acres.*
Platted holders:				
Weyerhaeuser Timber Co.	1	1,372,474	(*1*) 12,788	[3] 1,385,262
Northern Pacific Ry. Co.	1	306,201	(*1*) 49,530	355,731
Group of 33 holders	33	731,953	(*18*) 126,173	858,066
Total, platted holders	35	2,410,628	(*20*) 188,483	[4] 2,599,111
Unplatted holders (grouped by size of holding on map area):				
27 holders of over 250 million feet each	27	185,272	(*7*) 22,980	208,252
41 holders of 125 million feet to 250 million feet each[5]	41	127,833	(*13*) 16,315	144,148
46 holders of 60 million feet to 125 million feet each	46	99,463	(*7*) 10,610	110,073
Total, unplatted holders of over 60 million feet each	114	412,568	(*27*) 49,905	462,473
SUMMARY.				
Platted holders	35	2,410,628	(*20*) 188,483	2,599,111
Unplatted holders of over 60 million feet each	114	412,568	(*27*) 49,905	462,473
Total, holders of over 60 million feet each	149	2,823,196	(*47*) 238,388	3,061,584

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[1] Pages 29 and 30.

[2] The figures in this column include 33,678 acres reported as timber rights, as follows: Weyerhaeuser Timber Co., 3,560 acres; group of 33 holders, 26,048 acres; group of 27 holders, 1,500 acres; group of 41 holders, 1,780 acres; group of 46 holders, 1,230 acres.

[3] As stated on p. 6, the Weyerhaeuser Timber Co. retains the fee of 26,070 acres on which it has sold the timber. This tract of 26,070 acres is not included in its total in the above table, though practically all of it lies on the map area; part of it is reported by other holders as timber rights.

[4] Conflicts appear in the Bureau's reports as to the ownership of various tracts. The land affected by such conflicts within the map area amounts in all to 4,410 acres. Of this amount, 1,900 acres are platted to the Weyerhaeuser Timber Co., but are also reported as owned by members of the group of platted holders. The remaining 2,510 acres comprise conflicts between different members of the platted group.

[5] Including 28,747 acres of Northern Pacific lands contracted to unidentified holders. Not counted as an addition to the number of holders.

The significance of this table lies in the fact that 150 timber holders own over 3 million acres of land in southwestern Washington. After the timber is cut, therefore, the land will remain to them—suitable either for reforestation or for agriculture, and part probably of mineral value. Of this, the 35 platted holders own the fee of about 2,565,000 acres, or more than 4,000 square miles. Such a degree of concentration of land ownership is a matter of serious concern.

Section 9. Present ownership of Northern Pacific grant in map area.

The effect of railroad land grants upon the present concentration of timber ownership is clearly indicated by the following table, showing the present ownership of lands originally granted to the Northern Pacific in the area of the map. Of the 2,415,000 acres granted to the Northern Pacific here, about two-thirds is owned by two holders and no less than 75 per cent is now owned by 33 holders. The Northern Pacific itself retains 355,000 acres or 15 per cent, and the Weyerhaeuser Timber Co. owns 1,230,000 acres of the granted lands here, or 51 per cent of the amount granted in the map area.

TABLE 7.—PRESENT OWNERSHIP OF NORTHERN PACIFIC GRANT IN AREA OF WASHINGTON MAP.

Present holders.	Granted land owned on map area.[1]	Per cent of total granted land in map area.
Platted holders:	*Acres.*	
Northern Pacific Ry. Co.	355,781	14.7
Weyerhaeuser Timber Co.	1,231,867	51.0
Members of group of 33—		
St. Paul & Tacoma Lumber Co.	81,717	
Puget Mill Co.	23,709	
Simpson, Phoenix, and Mason County logging companies and allied concerns	23,175	
Carlisle-Pennell Lumber Co.	20,968	
Port Blakely Mill Co.	16,047	
Chicago, Milwaukee & St. Paul R. R. Co. interests	13,254	
T. D. and E. S. Collins interests	9,512	
Vilas, Darden & Gregory	9,246	
Platted holders—Contd.		
Members of group of 33—Continued.		
Cascade Timber Co. interests	*Acres.* 9,156	
Northwest Lumber Co.	7,565	
Eastern & Western Lumber Co.	6,907	
O'Connell Lumber Co.	6,664	
O'Neal Timber Co. (Ltd.) and Thos. Irvine Lumber Co.	4,197	
N. P. Wheeler et al.	3,900	
Henry Hewitt, jr., interests	3,106	
Pacific & Eastern Ry. Co. and Siler Mill Co.	2,901	
S. E. Slade Lumber Co.	2,576	
A. B. Hammond Co. interests	2,411	
Grays' Harbor Commercial Co.	2,088	

[1] Includes 21,445 acres reported as timber rights as follows: (*a*) Platted holders, 19,925 acres, the largest items of which are the Weyerhaeuser Timber Co., 8,880 acres; Northwest Timber Co., 7,565 acres; and O'Connell Lumber Co., 1,000 acres; (*b*) unplatted holders, 1,520 acres, of which the Monarch Timber Co. owns 1,120 acres. The table also includes 3,680 acres not distinguished between fee and timber rights, of which 1,240 acres are owned by platted holders and 2,440 acres by unplatted holders.

TABLE 7.—PRESENT OWNERSHIP OF NORTHERN PACIFIC GRANT, ETC.—Continued.

Present holders.	Granted land owned on map area.	Per cent of total granted land in map area.
Platted holders—Contd.		
Members of group of 33—Continued.	*Acres.*	
W. E. and Marie Boeing	2,012	
Portland Lumber Co.	1,320	
6 other members of group	2,512	
Total, group of 33	224,989	9.3
Total, platted holders	1,812,627	75.0
Unplatted holders:		
Tacoma Mill Co.	8,222	
Eastern Ry. & Lumber Co.	7,551	
Oregon Iron & Steel Co.	6,519	
Cowlitz Lumber Co.	4,086	
Lytle Logging & Mercantile Co.	3,730	
Western Washington Logging Co.	3,532	
W. K. Kneeland	3,049	
Walworth-Neville Manufacturing Co.	2,864	
Salling-Hanson Co.	2,642	
Page Lumber Co.	2,600	
South Bend Mills & Lumber Co.	2,438	
F. A. Coates Logging Co.	2,240	
Scott & Howe	1,985	
Union Timber Co.	1,920	
Keystone Timber Co.	1,920	
Carbon Hill Coal Co.	1,905	
Kelt Lumber Co.	1,901	
W. W. Seymour	1,804	
Charles H. Clemmons	1,800	
Campbell Lumber Co.	1,798	
North End Lumber Co.	1,733	
Astoria Timber & Lumber Co.	1,640	
E. J. Sands	1,588	
Unplatted holders—Contd.	*Acres.*	
McCormick Lumber Co.	1,480	
Puget Sound Power Co.	1,408	
Deep River Logging Co.	1,360	
Defiance Lumber Co.	1,348	
Axe Logging Co.	1,344	
Bismark Mill Co.	1,338	
Kleeb Lumber Co.	1,300	
Doty Lumber & Shingle Co.	1,296	
Saginaw Timber Co.	1,280	
Lebovitz, Kronfeld & Casey	1,233	
Talbot-Walker Co.	1,196	
Allen & Nelson Mill Co.	1,170	
Monarch Timber Co.	1,120	
Atlas Lumber & Shingle Co.	1,060	
White Star Lumber Co.	1,032	
Chehalis River Lumber Co.	1,000	
Subtotal, 39 unplatted holders of over 1,000 acres	90,695	3.8
57 unplatted holders of less than 1,000 acres	25,796	1.1
Total unplatted holders reported to the Bureau	116,491	4.9
SUMMARY.		
Platted holders	1,812,627	75.0
Unplatted holders reported to Bureau	116,491	4.9
Total accounted for	1,929,118	79.9
Unaccounted for	486,660	20.1
Grand total	2,415,778	100.0

This table shows that approximately 15 per cent of the land granted to the Northern Pacific in the southwestern Washington map area is still held by that company, 51 per cent is held by the Weyerhaeuser Timber Co., and 9 per cent by the members of the group of 33; making, as already stated, 75 per cent now in the hands of the platted holders. About 5 per cent is in the hands of the unplatted timber holders separately reported to the Bureau. The amount not accounted for is only 20 per cent, part of which no doubt belongs to smaller timber holders not separately reported, part of which is denuded land, and part prairie land.

It is worthy of note that while the Weyerhaeuser Timber Co. now holds 1,231,857 acres of the granted lands in this area, it originally acquired from the Northern Pacific about 102,000 acres in addition thereto, which it has subsequently sold. Of this amount formerly owned by the Weyerhaeuser Timber Co., about 44,000 acres are now held by 49 of the holders named in the table and included in the amounts set down for them. The remaining 58,000 acres are included in the acreage unaccounted for.

Since the total acreage of the Weyerhaeuser Timber Co. on the map area is 1,385,262 acres (Table 6), the 1,231,857 acres it acquired here from the railroad grant constitute practically 90 per cent of its land holding on the southwestern Washington map.

Section 10. Total holdings in investigation area of holders platted on Washington map.

The significance of a timber holding is not to be measured by the amount of timber or by the total acreage owned in a selected area, like the area of this map. The power of a timber company in a given region is enhanced if it has large interests in other timber regions as well. The total strength of the holders under discussion is shown below (1) as regards timberland and timber and (2) as regards total land holdings. The latter point is of great importance as bearing on the control of industry and political life which may be exercised through the ownership of a large proportion of the land in a community or region.

TIMBER HOLDINGS IN PACIFIC-NORTHWEST.—Table 8 (timbered acreage) and Table 9 (merchantable timber) have been prepared to show the total holdings in the Pacific-Northwest of the 35 holders platted on the southwestern Washington map; and a later paragraph will show whatever holdings they have in the Lake States and in the Southern Pine Region. The regions of the Pacific-Northwest chosen for separate presentation in these two tables are western Washington, western Oregon, and California. The extent of their total timber holdings in western Washington is shown both for "On the map area" and "Outside the map area." Whatever timber holdings any of these 35 holders have in eastern Washington, eastern Oregon, Idaho, or Montana is shown as a lump sum in the column headed "Other regions of Pacific-Northwest." The phrase "Pacific-Northwest" throughout the Report means the States of California, Oregon, Washington, Idaho, and Montana.

It will be noticed from the tables that the Northern Pacific Railway Co. has no timber holdings in western Oregon or California.

Most of the group of 33 holders, likewise, have no holdings in these States, and indeed 13 have no holdings at all beyond what they own on the Washington map area. The tables and text, therefore, state the actual number of holders who own the amount shown for the group in each of the regions.

The two tables, 8 (timbered acreage) and 9 (merchantable timber), show the timbered acreage and merchantable timber of the same holders. The timber of any entry in Table 9 stands on the acreage shown for the corresponding entry in Table 8. The two tables will be discussed together.

TABLE 8.—ACREAGE[1] OF TIMBER OWNED IN PACIFIC-NORTHWEST BY THE 35 PLATTED HOLDERS OF WASHINGTON MAP, BY REGIONS.

[Only part of the 33 grouped holders owns any land outside the Washington map area. The number of those who do own in each region is given in the table, parenthetically in italics.]

Holders platted on Washington map.	In western Washington.			In western Oregon.[2]	In California.	In other regions of Pacific-Northwest.	Total in Pacific-Northwest.
	Total.	On map area.	Outside map area.				
	Acres.	*Acres.*	*Acres.*	*Acres.*	*Acres.*	*Acres.*	*Acres.*
Weyerhaeuser Timber Co.	1,515,982	1,372,474	143,508	250,430	4,905	122,728	1,903,966
Northern Pacific Ry. Co.	547,782	306,291	241,491	....	....	2,431,271	2,979,053
Group of 33 holders	(*33*) 1,131,767	(*33*) 731,893	(*14*) 399,874	(*7*) 341,356	(*5*) 455,326	(*6*) 264,972	(*33*) 2,193,421
Total, 35 holders	(*35*) 3,195,451	(*35*) 2,410,658	(*16*) 784,873	(*8*) 591,786	(*6*) 460,231	(*8*) 2,818,971	(*35*) 7,066,439

[1] The figures in this table include 88,752 acres reported as timber rights as follows: Total in western Washington, Weyerhaeuser Timber Co., 8,920 acres; group of 33 holders, 20,495 acres. In western Oregon, group of 33 holders, 405 acres. In California, group of 33 holders, 1,800 acres. In other regions of the Pacific Northwest, group of 33 holders, 13,079 acres.

[2] Including the part of Klamath County, in eastern Oregon, on Part IV of the Oregon map. (See p. 65.)

TABLE 9.—TIMBER OWNED IN PACIFIC-NORTHWEST BY THE 35 PLATTED HOLDERS OF WASHINGTON MAP, BY REGIONS.

[In billions of board feet. Thus, 76.9=76,900,000,000 board feet. Only part of the 33 grouped holders owns any timber outside the Washington map area. The number of those who do own in each region is given in the table, parenthetically in italics.]

Holders platted on Washington map.	In western Washington.			In western Oregon.[1]	In California.	In other regions of Pacific-Northwest.	Total in Pacific-Northwest.
	Total.	On map area.	Outside map area.				
Weyerhaeuser Timber Co.	76.9	70.4	6.5	15.9	0.1	2.8	95.7
Northern Pacific Ry. Co.	16.2	11.1	5.1	....	....	20.0	36.2
Group of 33 holders	(*33*) 63.1	(*33*) 39.9	(*14*) 23.2	(*7*) 20.7	(*5*) 31.2	(*6*) 4.9	(*33*) 119.9
Total, 35 holders	(*35*) 156.2	(*35*) 121.4	(*16*) 34.8	(*8*) 36.6	(*6*) 31.3	(*8*) 27.7	(*35*) 251.8

[1] Including the part of Klamath County, in eastern Oregon, on Part IV of the Oregon map. (See p. 65.)

Weyerhaeuser Timber Co.—Tables 8 and 9 show that the Weyerhaeuser Timber Co. has in western Washington a total of 1,515,932 acres of merchantable timberland and 76.9 billion feet of timber. Of this timbered acreage all but 143,458 acres and of the timber all but 6.5 billion feet is on the area of the southwestern Washington map. The 143,458 acres outside the map area are for the most part located in eastern Clarke County, in eastern King County, and in southern Snohomish County. The company also owns a small acreage outside the Northern Pacific grant limits in Skagit and Whatcom Counties—lands obtained by means of Northern Pacific scrip. It has no holdings in eastern Washington.

In western Oregon, including that part of Klamath County in eastern Oregon which lies on Part IV of the Oregon ownership map, the Weyerhaeuser Timber Co. has 250,430 acres of land and 15.9 billion feet of timber. The greater part of this timber is in the heavy Douglas fir region west of the mountains, and the remainder of it lies in eastern Jackson and western Klamath Counties, in the belt of sugar pine and western pine. In California the Weyerhaeuser Timber Co., in the name of its subsidiary, the Weyerhaeuser Realty Co., owns 4,905 acres of merchantable timberland, with less than 100 million feet. The holding shown in the tables for the Weyerhaeuser Timber Co. in other regions of the Pacific-Northwest is 132,728 acres and 2.8 billion feet of timber. With the exception of a negligible amount in northern Idaho this acreage and timber lie in eastern Klamath County and in Lake County, Oreg.

The Weyerhaeuser Timber Co.'s total in the Pacific-Northwest as shown by these tables is 1,903,995 acres of timberland and 95.7 billion feet of timber. The importance of this holding, the second in size in the United States, has already been discussed in a previous chapter. It is sufficient here to repeat that the holding amounts to 9.4 per cent of the privately owned timber in the Pacific-Northwest.

Northern Pacific Railway Co.—The tables under discussion show that the Northern Pacific Railway Co. has a total in western Washington of 547,752 acres of merchantable timberland and 16.2 billion feet of timber. The greater part of this, namely, 306,261 acres and 11.1 billion feet of timber, is on the area of the southwestern Washington map. The Northern Pacific's timberland in western Washington which lies outside the map area has a lighter stand than its land on the map area. Hence, though the company has 241,491 acres of timberland in western Washington outside the map area, it has on this acreage only 5.1 billion feet of timber.

In western Oregon and in California the Northern Pacific has no timber holding whatever. It is true that over 500,000 acres have been patented to the Northern Pacific in the State of Oregon, but practically all of these lands that are timbered have been sold or are under contract of sale. All such contract timberlands not only in

Oregon but in the other northwestern States, have been credited in the Bureau's tables to the holders of the contracts, if the contract holders were known. In cases where the Bureau did not know the contract holders, the lands were thrown into the group of holders of 125 to 250 million feet each. They were not credited to the Northern Pacific because that company has no further interest in them than to transfer title as soon as it receives patent from the Government.

The tables show that it is in "other regions" of the Pacific-Northwest that the Northern Pacific Railway has the greater part of its holding, viz, 2,431,271 acres of merchantable timberland and 20 billion feet of timber. These figures represent the holding of the Northern Pacific in eastern Washington, in Idaho, and in Montana. It may be noted that the average stand on its holding here is relatively low.

The company's total holding in the Pacific-Northwest—2,979,023 acres of timbered land and 36.2 billion feet of timber—makes it the third largest holder of timber in the investigation area.

The Northern Pacific and the Weyerhaeuser Timber Co. together have 4,883,000 acres of timber, with no less than 132 billion feet, or 13 per cent of all privately owned timber in the five great States of the Pacific-Northwest.

Group of 33 holders.—Tables 8 and 9 show whatever holdings the group of 33 holders who are platted on the Washington map area has in the various regions of the Pacific-Northwest. Some of these 33 holders have no timber outside the map area. In western Washington outside the map area, their 399,874 timbered acres and 23.2 billion feet of timber are actually owned by only 14 holders out of the group. Of this timber, part lies in Chehalis County along the Pacific coast. A far larger part lies in western Jefferson and in western and northern Clallam Counties in the Olympic Peninsula; and in Snohomish and Skagit Counties in the northern part of western Washington. None of it lies south of the map area. In western Oregon 7 members of the group of 33 holders own 341,356 acres and 20.7 billion feet of timber, and no other members of the group have any holdings there. Similarly, in California the 455,326 acres of timberland and 31.2 billion feet of timber owned by the members of the group of 33 are actually in the hands of only 5 holders. Only 6 members of the group have timber in "other regions" of the Pacific-Northwest. These holdings, amounting to 254,972 acres of timberland and 4.9 billion feet of timber, are scattered in eastern Oregon, eastern Washington, Idaho, and Montana.

The entire holdings in the Pacific-Northwest of the whole group of 33 are 2,183,421 acres of timberland and 119.9 billion feet of timber.

The total for the 35 holders (Weyerhaeuser Timber Co., Northern Pacific Railway Co., and group of 33) reaches the enormous amount of 7,066,439 acres of timberland and 251.8 billion board feet of timber, which is almost one-fourth of all the privately owned timber in the Pacific-Northwest.

Timber owned in regions of Pacific-Northwest by holders selected from those platted on Washington map.—In the separate regions comprising the Pacific-Northwest a selection of certain ones from the members of the group of 33 who own in those regions would reveal a much higher degree of concentration than is shown in Tables 8 and 9; for those tables include all holders platted on the Washington map who own any timber at all in another region, no matter how small the amount.

Thus, though 14 of these holders own 23.2 billion feet of timber in western Washington outside the map area, 9 holders selected from that number own 22 billion feet out of the 23.2. These 9 own in western Washington as a whole 38.3 billion feet, and, taken with the Weyerhaeuser Timber Co. and the Northern Pacific, make 11 of the map holders owning in western Washington 131.4 billion feet of timber.

In western Oregon and California 5 selected holders from the Washington map group of 33 own no less than 51.4 billion feet of timber. This with the Weyerhaeuser Timber Co.'s holding in those regions makes a total of 67.4 billion feet owned there by 6 of the Washington map holders.

Still more striking is the fact that out of the 251 billion feet owned in the Pacific-Northwest by the Weyerhaeuser Timber Co., the Northern Pacific, and the group of 33, over 206 billion feet are in the hands of only 8 holders. This amounts to 20 per cent of all the privately owned timber in the States of California, Oregon, Washington, Idaho, and Montana—that part of the country where lies the chief remaining source of timber supply for the United States.

This 20 per cent, it will be observed, is composed of about 9.5 per cent owned by the Weyerhaeuser Timber Co., about 3.5 per cent owned by the Northern Pacific, and about 7 per cent by 6 holders selected from the group of 33. It should be remembered that these are not the 8 largest holders in the Pacific-Northwest. Only 5 out of the 8 holders referred to would appear in a list of the 8 largest holders in the Pacific-Northwest. The Southern Pacific, the largest single holder in the Pacific-Northwest, is not included here at all.

TIMBER OWNED IN LAKE STATES AND IN SOUTHERN PINE REGION BY HOLDERS PLATTED ON WASHINGTON MAP.—The tables which have just been discussed cover only the Pacific-Northwest, but there are 5 holders platted on the Washington map who also own timber outside the Pacific-Northwest—2 in the Lake States and 3 in the Southern Pine Region. The total amount of timber owned on the Washington map area by these 5 holders is 14.4 billion feet standing on 372,555 acres and the total owned by them in the Lake States and the Southern Pine Region is 5 billion feet of timber standing on 793,749 acres.

By adding these holdings to the total shown in Tables 8 and 9 for the 35 holders in the Pacific-Northwest (namely, 7,066,439 timbered acres and 251.8 billion feet) it will be found that the total timber strength of the 35 in the entire investigation area is 7,860,188 acres of merchantable timberland, carrying 256.8 billion feet of timber.

TOTAL LAND HOLDINGS.—The limitations of the Bureau's information as to the total land holdings of timber owners have been set forth on page 17. The reports to the Bureau, as summarized in the following table, show, however, that in the timbered portions of the Pacific-Northwest the holders platted on the Washington map own 397,813 acres of land not bearing merchantable timber. Adding this to the 7,066,439 acres of their mechantable timberland in the Pacific-Northwest (Table 8) would indicate that the total reported acreage of these holders (including their relatively small amount of timber rights) is 7,464,252 acres, of which the Northern Pacific owns 3,158,480 acres. These figures apply only to land in the timbered portions of the Pacific-Northwest, and particularly exclude a very large amount of land owned by the Northern Pacific in the timberless regions. The Northern Pacific's total acreage as shown in its annual report to stockholders for 1910 was 9,949,985 acres, of which all but 110,000 acres lay in Oregon, Washington, Idaho, and Montana. This indicates that the present table excludes about 6,680,000 acres of Northern Pacific land.

The table repeats for each holder or group the merchantable-timber acreage from Table 8, and then gives the "additional" land and the total acreage owned. Only 23 of the members of the group of 33 were reported as owning additional land.

TABLE 10.—ACREAGE OF TIMBER (INCLUDING TIMBER RIGHTS) AND ADDITIONAL LAND OWNED IN TIMBERED PORTIONS OF PACIFIC-NORTHWEST BY THE 35 PLATTED HOLDERS OF WASHINGTON MAP.

Holders platted on Washington map.	Merchantable-timber acreage.		Additional land reported.		Total in timbered portions of Pacific-Northwest.	
	Number of holders.	Acres.	Number of holders.	Acres.	Number of holders.	Acres.
Weyerhaeuser Timber Co.	1	[1] 1,903,995	1	40,904	1	1,944,899
Northern Pacific Ry. Co	1	2,979,023	1	[2] 179,457	1	3,158,480
Group of 33 holders	33	[3] 2,183,421	23	177,452	33	2,360,873
Total	35	7,066,439	25	397,813	35	7,464,252

[1] Including 8,920 acres timber rights.

[2] The figure of 179,457 is incomplete for the Northern Pacific's additional lands in the Pacific Northwest. It covers probably the greater part of the company's additional land in the timbered counties investigated by the Bureau, but covers none of its very large holdings in the nontimbered regions of the States of Oregon, Washington, Idaho, and Montana. All totals which include this tract of 179,457 acres are, consequently, incomplete. The total land holding of this company in the whole country is 9,949,985, of which all but 110,000 acres are in the Pacific Northwest. The total is shown separately, by States, in Part I, p. 236.

[3] Including 44,532 acres timber rights.

The distribution of the 7,066,439 acres of merchantable-timber acreage owned by the 35 holders in the various parts of the Pacific-Northwest has been given in Table 8. The distribution of the 397,000 acres of additional land is approximately as follows: Of the 41,000 acres of the Weyerhaeuser Timber Co., 26,000 acres are in western Washington, 13,000 acres in western Oregon, and 2,000 in California; of the 179,000 acres of the Northern Pacific Railway Co., 63,000 acres are in western Washington and 116,000 in eastern Washington, Idaho, and Montana; of the 177,000 acres reported for the 23 members of the group of 33, about 147,000 acres lie in western Washington, 18,000 in western Oregon, 10,000 in California, and 2,000 in other regions of the Pacific-Northwest.

The total acreage reported as owned by these 35 holders in the timbered portions of the Pacific-Northwest is 7,464,252 acres. This is equivalent to 46,651 tracts of 160 acres each—the "quarter section" which the individual can ordinarily take up under the Federal laws. It would be sufficient (at five persons to each settler's family) to give a landed interest to over 230,000 persons. The 6,680,000 acres of excluded Northern Pacific land in timberless parts of the same region would supply a landed interest to nearly as many more. Put in another way, the 14,145,000 acres owned in the Pacific-Northwest by these 35 holders amount to seven-tenths of an acre to each one of the 20 million families in the United States in 1910. These illustrations, and similar ones elsewhere in the Report, are meant merely to give an idea of the size of the areas involved; they do not imply anything as to the character of the land. A large part of it is not suited to agriculture at present, and much of it probably never will be.

Taking also the 790,000 acres of timberland, and 125,000 acres of additional land, which some of these same holders have in the Lake States and the Southern Pine Region, gives for the 35 a total reported acreage in the investigation area of over 15,000,000 acres.

Ten members of the group of 33 own well over 1,800,000 acres out of a group total of 2,360,000. Six holders of the group have well over 1,450,000. These 6, taken with the Weyerhaeuser Timber Co. and the Northern Pacific (including here only that part of its holdings covered in the table), give 8 holders owning more than 6,550,000 acres of land in the timbered portions of the Pacific-Northwest. Thus 8 holders have the equivalent of nearly a third of an acre for every family in the United States. The 5,103,379 acres shown in the table for the Northern Pacific and the Weyerhaeuser Timber Co. alone would, on this basis, provide for one-quarter of an acre, and with the excluded Northern Pacific land would be enough for over half an acre, to each of the 20 million families.

NOTE.

State lands on map area.—The lands of the State of Washington on the area of the map are platted with the symbol "S," standing for "State." Lands which are still owned by the State but on which the timber rights have been sold are platted with an "S" placed horizontally ("∞"). The greater part of the State lands which are platted with the upright "S" are timbered; and timber rights thereon have not been sold, but the Bureau has no complete data as to the actual acreage timbered nor as to the amount of timber. In the map area the total acreage of these lands on which timber rights have not been sold (symbol "S") is 363,045 acres; and the acreage on which timber rights have been sold is 62,612 acres. Of this 62,612 acres, however, 12,960 acres have been reported to the Bureau by timber-owning companies. The remaining 49,652 acres, therefore, are the State lands on which timber has been sold, and which have not been reported to the Bureau by owners of 60 million feet or over. The Bureau does not know whether the timber on these particular 49,000 acres has been logged as yet.

The 363,000 acres of timberland, with the 49,000 acres of land on which the timber has been sold, make a total of about 412,000 acres of land owned by the State on this map area. Of the 12,960 acres of State lands on which the timber was reported by private holders, about 7,000 acres were reported by unplatted holders. By oversight these 7,000 acres, which should have been left blank on the map, were platted to the State with the other "∞" lands. The amount of "∞" land actually platted on the map is therefore about 56,000 acres instead of 49,000.

It will be observed that the most important region of the State lands is in the southern half of the map, in Pacific, Lewis, Cowlitz, and Wahkiakum Counties; other smaller bodies of well-timbered State lands are found in Chehalis County southeast of Grays Harbor and in southern Pierce County below Tacoma. In the regions mentioned the State has not only the sections numbered 16 and 36, granted to the State for school purposes, but also a large area of land in other even-numbered sections. These lands in other sections than 16 and 36 were selected by the State as indemnity for school lands, or under various grants from the Federal Government allowing the State to select a fixed acreage in whatever part of the State it could find unappropriated public lands. The large acreage of State selections located on the map lies for the most part in heavy timber. Beyond the map to the northwest the State has made large selections of timberland in northern Chehalis, Jefferson, and Clallam Counties; and it has very considerable bodies of timberland in other more lightly timbered counties.

The law of Washington (Session Laws, 1909, ch. 223) forbids the State to sell the fee in timberlands which carry more than one million feet to the quarter section, i. e., 6,250 board feet per acre. This means that on all the State lands which have sufficient timber to be really merchantable the timber must be sold separately from the land. Such sales are by public auction to the highest bidder, and no sale can be made at less than the appraised value. To indicate the prices at which the State is holding its timber it may be said the appraised values of certain parcels offered at public auction August 7, 1909, averaged as follows:

Counties.	Acres offered.	Average appraised value of timber per acre.
Chehalis	200	$60.02
Chelan	960	17.04
Cowlitz	280	52.30
King	40	45.00
Pierce	640	155.73
Total	2,120	68.54

The law further provides that timber so sold must be removed within five years, or the purchaser loses his rights and the timber reverts to the State; though in cases of good faith the time may be extended five years upon payment of not less than $1 and not more than $2 per acre for each year of extension. The purpose of the law was to prevent large timber-owning corporations from securing fee to the State lands and holding the timber for a rise in price.

CHAPTER III.

CONCENTRATION OF TIMBER OWNERSHIP IN IMPORTANT AREAS IN WESTERN OREGON.

Section 1. Amount and general distribution of timber in State of Oregon.

There is more privately owned timber in Oregon than in any other State of the Union—over 398 billion board feet. Of this, 315.9 billion feet, or practically four-fifths, stand on the heavily timbered areas in western Oregon selected for this discussion.

A monograph on the forests of Oregon,[1] by Henry Gannett of the United States Geological Survey (published in 1902), gives an excellent general description of the forest areas of Oregon; following is an excerpt:

> The Coast Range presents an almost unbroken wooded region extending from the Columbia to the south boundary of the State. Toward the south boundary, however, the forests become more open, the southern slopes of the mountains being largely without timber, while, as a rule, the northern slopes are well forested. The great burned areas in the Coast Range are, in the main, well advanced toward restocking with timber. Succeeding this region on the east is a depression extending from Columbia River south to the Siskiyou Mountains, which consists in large part of open country. The northern portion of it consists of the Willamette Valley, beyond which to the southward succeed the valleys of Umpqua and Rogue Rivers. The valley of the Willamette is a broad, open expanse. How much of this valley was originally forested and has been cleared by man it is impossible at this time to say, but probably strips of considerable width on either side were formerly forested and have thus been cleared. The valleys of Umpqua and Rogue Rivers contain much open land, in which are scattered bodies of timber.
>
> The Cascade Range is heavily timbered from the west base to its crest, and to a varying distance upon the eastern side. As in the Coast Range, the forest is less dense in the southern part of the State, and to a large extent is confined to the northern slopes. From the crest the forest extends eastward to varying distances, the distance being greatest in the southern part of the State, in Klamath and Lake Counties, nearly all of the former county being covered by forests of yellow pine.
>
> In the northeastern part of the State is a large, irregular, isolated body of timber covering the Blue and Wallowa Moun-

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[1] The Forests of Oregon, by Henry Gannett, Professional Paper No. 4, Series H, Forestry 1, Geological Survey, Washington, D. C., 1902, p. 10.

tains. These forests are open and light as compared with those in the western part of the State.

The crest of the Cascade Range is a natural dividing line between two very different portions of Oregon. West of this line the rainfall is heavy, and consequently the forests are, as a whole, dense, and in parts extremely luxuriant. East of that boundary the rainfall is light, the forests are comparatively scanty and open, and the stand of timber is small.[1]

ction 2. Description of selected areas in western Oregon, and of ownership map.

The areas selected for this discussion lie in western Oregon and re covered by an ownership map in four parts (facing p. 80). The ur parts are considered as a unit in the tables and in the text dis- ssion of acreage and timber.[2] The mapped areas include 88 per nt of the privately owned timber in the State west of the Cascades.[3] he portions of western Oregon omitted in this selection, in the main, mprise nontimbered lands, privately owned timberlands having a latively light stand or scattered in location, and national forests here there is little private timber.

The exact location of the four parts of the map is shown in the ey map of the Pacific coast, facing page 4. They may be briefly scribed as follows:

Part I covers an area west of Portland from range 2 W. (Willa- ette meridian) to the Pacific Ocean, and from the Columbia River uthward to the south boundary of Polk County. In its greatest tent it is about 55 miles from west to east and about 100 miles from rth to south. It embraces one of the heaviest Douglas-fir regions the country, as well as much open land in the Willamette Valley d around Tillamook Bay. It includes all of Clatsop, Tillamook, amhill, and Polk Counties, the greater part of Columbia and ashington Counties, and portions of Lincoln, Marion, and Mult- omah Counties.

Part II covers the area from the north line of township 4 S. to the uth boundary of Lane County, and from ranges 6 E. to 2 W., clusive. This is a strip about 50 miles in width, beginning a little uth of Portland and stretching some 125 miles southward. It kes in a heavily timbered Douglas-fir region lying against the Cas- de Mountains, whence it slopes westward to the open Willamette alley. The best timber of Clackamas, Marion, and Linn Counties, s well as a large part of the timber in Lane County, stands on the rea of Part II.

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[1] For a digest from this same monograph relating to important burned forest areas in regon, see pp. 48 to 49.

[2] For statements showing for each of the four parts separately the amount of acreage d timber, see pp. 53 and 64.

[3] Since the map covers part of Klamath County in eastern Oregon, the timber on this apped part of Klamath County is added to that in Western Oregon proper in computing e 88 per cent.

Part III adjoins the southwestern boundary of the second map and stretches westward to the coast. It embraces that part of Douglas County that lies west of Willamette meridian, and all of Coos County except the southern tip. It also includes a few townships in the northern end of Curry County. Large portions of the area of this map, especially in Coos County, are heavily timbered. There are large open areas, however, in the Umpqua River Valley, especially in south central Douglas County.

Part IV extends from the south boundary of eastern Douglas County to the California line. It embraces the eastern half of Josephine County, practically all of Jackson County, and the Klamath Lake region in the western part of Klamath County. From Ashland to Grant's Pass a wide stretch on both sides of the Southern Pacific railroad has little merchantable timber. Here, as in the Umpqua Valley, some of the platted lands of the Southern Pacific are nontimbered. Except in eastern Jackson and in Klamath Counties, the chief species are Douglas fir and western pine, but in general the stand is light compared with that on Part I, Part II, and Part III. In eastern Jackson County and in Klamath County is an area forested principally with sugar pine and western pine. Although these kinds of timber do not produce stands so dense as redwood or Douglas fir, this region has an excellent and valuable stand of its characteristic species.

Taken together, the four parts include by far the greater portion of the important timbered areas of western Oregon. This is obvious from the fact that 80 per cent of the private timber in the entire State stands on the areas mapped, and of the private timber in Oregon west of the Cascade Mountains 88 per cent is on this map. Only 68 holders are platted on the four parts, and these 68 own 70 per cent of the privately owned timber on the map area. Their holdings on the map amount to about 56 per cent of the privately owned timber in the whole State.

The lands platted on the map to these 68 holders amount to about 4,195,000 acres, of which about 3,945,000 acres carry merchantable timber.

Open and burned areas of western Oregon.—The Bureau's information as to open and burned areas of western Oregon is not so detailed as in southwestern Washington, so that it was impracticable to map the "little or no timber areas," as was done on the Washington map. The general location of the most extensive of the open timberless areas on the various parts of the western Oregon map has been indicated in the paragraphs above; and this, with a brief statement of the general location of the great burns in this territory, will be sufficient to give an idea of the important areas where there is practically no merchantable timber.

The historic burns of Oregon, and the stages which reforestation has reached on them, are described in the monograph above cited.[1] The Nestucca burn, which occurred between 1850 and 1860, is located in the southern portion of Part I of the map in townships 3, 4, and 5 S. from the coast eastward to the Willamette Valley. There are practically no platted holdings in these townships except that of the Southern Pacific. A considerable part of the area has been thrown into a national forest, in accordance with the policy of the Forest Service to reserve large burned areas and promote the restocking of the timber.

In 1868 great fires devastated the timber from Coos Bay southward along the coast to the Rogue River Mountains, and also that between the forks of the Coquille River, the latter area having been previously burned in 1843. These burns are located in the western portion of Part III of the map. In the region of the Coquille burn, the reforestation has been especially rapid and some of the young timber, very dense in stand, is in the ownership of platted holders.

The monograph also describes other important burns in parts of western Oregon not on the map, especially the Yaquina burn in Lincoln and Benton Counties and the burn from Cape Perpetua southward to the Siuslaw River in western Lane County. Both these burns lie in the territory between Part I and Part III of the map.

Railroad grant limits.—The limits of the Oregon & California Railroad Co.'s land grants are shown. The primary limit runs at a distance of 20 miles from the original main line of the railroad on either side, and the indemnity limit runs 5 miles or 10 miles farther out, making it 25 miles or 30 miles from the road. Only the railroad line from which the grant limits are calculated is named on the map. Of the unnamed railroad lines and branches all (except two very short roads) are parts of the Southern Pacific system, but have no relation to the grant limits.

There were originally two grants, one to the Oregon & California Railroad Co., called the "East Side grant," and running from Portland to the California line, with a 30-mile indemnity limit; the other, called the "West Side grant," to the Oregon Central Railroad Co., running from Portland west to Forest Grove and from Forest Grove south to McMinnville, with a 25-mile indemnity limit. The latter grant originally contemplated the construction of a railroad from Portland to the ocean, but the line was never completed, and the remainder of the grant was forfeited. The Oregon & California

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[1] Cited on p. 46.

Railroad Co. in 1880 became successor to the Oregon Central Railroad Co., and absorbed its grant. Both grants are now controlled by the Southern Pacific Co. Both roads started from Portland, one going south and the other west; consequently the limits of the two grants overlapped somewhat at the outset. The length of the road from Portland to the California line is about 370 miles; of that from Portland to McMinnville, 47 miles.

Land-grant wagon roads.—The location of the wagon road between Coos Bay and Roseburg, which carried a Federal land grant of over 100,000 acres, is mapped on Part III. The western portions of the Willamette Valley and Cascade Mountain Wagon Road and of the Oregon Central Military Road are mapped on Part II. These last roads, reaching across the mountains to the eastern boundary of the State, were also subsidized by land grants of alternate sections to aid in their construction. The primary and indemnity limits are not indicated on the map. The Willamette Valley & Cascade Mountain Wagon Road had a primary limit of 6 miles on each side of the road, within which three sections per mile were to be selected. The others had a primary limit of 3 miles on each side, with indemnity limits 3 miles farther out, likewise making 6 miles within which lands could be selected.

National forests.—National forest boundaries are shown in heavy black lines with a parallel row of dots on the inner side. Detached portions of some of the national forests will be seen separate from the main bodies. In some cases these detached parts are only a few sections or even a single section in extent, and if there happen to be lands platted in solid black within or about these bits of the forest, it is hard to make out their black boundaries. Reference to the key map of the Pacific coast (facing p. 4), which shows national forests, will help make clear these reserved areas.

A glance at Parts II, III, and IV, of the western Oregon map will illustrate the point already made in Chapter I, that the Government is far from owning solidly the area within the reserve boundaries. In many parts of the national forests in this area a large proportion of the land is privately owned by the platted holders, and some of the remainder is in the hands of unplatted timber companies or of individuals. The amount of privately owned land within the national forest boundaries of the Pacific-Northwest States has been shown on page 15, in a table based on the published figures of the Forest Service (June 30, 1909). In Oregon the acreage within the national forest boundaries held by private persons is 15.8 per cent of the total area of these reserves. The national forests which are entirely or partly included in the areas selected for the western Oregon map, and the percentage of privately owned land in each, are s follows, the figure being for the entire forest, not for the part n the map:

	Per cent of gross area privately owned.
Cascade	7.5
Oregon	13.7
Siuslaw	51.3
Umpqua	26.3
Crater[1]	22.0
Siskiyou[1]	11.8
For the six forests	19.3

The great stretches of Government land along the main divide of he Cascades are, on account of their altitude, less heavily timbered han the lower slopes, where the private holdings are in evidence, and n general the heaviest timber has passed into private ownership.

In Parts I and III may be seen examples of the national forest reas reserving for future supply a young growth of timber not yet nerchantable, where, on account of some old burn, timber locators ad passed the land by to take larger timber.

ection 3. Concentration of timber ownership in area of Oregon map.

The following table for western Oregon, similar to that for the Vashington map, shows the timbered acreage and timber owned on he four parts of the Oregon map area by the platted holders and roups of holders, and also by the groups of unplatted holders. The nplatted holders are grouped according to the size of their holding n the State, not according to their holding on the actual map area, s in the Washington table. Thus, an unplatted holder who owns 00 million feet or more in the State is included in the first group of nplatted "holders of 500 million feet and over," even though his ctual holdings on the map area may be less than that. The figure or acreage and for timber in each group, however, is, strictly, that wned *on the map area* by members of the group. This method of rouping by size of holding in the State was convenient, and by it he results are not far different from what would have been by rouping according to size of holding in map area, since so large a roportion of the timber in the State is on the map area. The situaion is very different from that obtaining in western Washington nd justifies the different method used in compiling the tables.

The acreage in the first table is merchantable-timber acreage. A ater table of total acreage will show the amount of land actually latted on the map. The amount of land held on the map area in he form of timber rights without ownership of the land itself is only 20,746 acres, the distribution of which among the different groups of holders is indicated in the tables by footnotes.

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[1] Forest situated in two States. Privately owned areas apportioned.

The tables include only privately owned timber, and exclude any timber on Government lands, whether in the national forests or on unappropriated public lands outside the national forests. They also exclude State lands. (See p. 80.)

TABLE 11.—TIMBER ACREAGE AND TIMBER OF PLATTED AND UNPLATTED HOLDINGS ON OREGON MAP, BY GROUPS.

[Timber in billions of board feet. Thus, 60.5=60,500,000,000 board feet.]

Holders.	Number of holders.	Timber acreage[1] owned on map area.	Timber owned on map area.	
			Billion feet.	Per cent of total.
Platted holders:		Acres.		
Southern Pacific Co	1	1,643,945	60.5	19.2
Weyerhaeuser Timber Co	1	247,980	15.8	5.0
First group, 3 holders	3	507,084	38.1	12.1
Second group, 8 holders	8	522,116	36.6	11.6
Third group, 17 holders	17	521,890	37.1	11.7
Fourth group, 38 holders	38	401,456	35.1	11.1
Total, platted holders	68	3,944,391	223.2	70.7
Unplatted holders (grouped by size of holding in State):				
16 holders of over 500 million feet each	16	119,477	7.7	2.4
32 holders of 250 million feet to 500 million feet each	32	206,255	11.4	3.6
58 holders of 125 million feet to 250 million feet each[2]	58	192,564	10.5	3.3
89 holders of 60 million feet to 125 million feet each	89	139,193	7.2	2.3
Total, unplatted holders of over 60 million feet each	195	657,489	36.8	11.6
Holders of less than 60 million feet each[3]		1,510,728	55.9	17.7
Total, unplatted holders		2,168,217	92.7	29.3
SUMMARY.				
Platted holders	68	3,944,391	223.2	70.7
Unplatted holders of over 60 million feet each	195	657,489	36.8	11.6
Total, holders of over 60 million feet each	263	4,601,880	260.0	82.3
Unplatted holders of less than 60 million feet each		1,510,728	55.9	17.7
Total, all holders		6,112,608	315.9	100.0

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[1] The figures in this column include 20,746 acres reported as timber rights distributed by groups as follows—Platted holders: Second group, 725 acres; third group, 5,928 acres; fourth group, 4,920 acres. Unplatted holders: Group of 16 holders, 1,000 acres; group of 32 holders, 1,220 acres; group of 58 holders, 3,2 acres; group of 89 holders, 3,453 acres; holders of less than 60 million feet, 200 acres.

[2] Includes Northern Pacific "lieu-scrip" land under contract to unidentified holders, amounting to 15,7 acres and 800 million feet of timber, not counted as an addition to the number of holders in this group.

[3] This includes 26 holders of less than 60 million feet each whose holdings were separately reported to the Bureau. The total of these 26 separately reported holders is 18,630 acres (of which 200 acres are in timber rights) and 900 million feet. The remainder of the timber in this group was covered by general estimates.

NOTE.

Amount of timber acreage and timber on each part of Oregon map.—The tables and discussion in this chapter treat the four parts of the western Oregon map as a unit; but it may be desirable to state the amount of timberland and timber on each part separately. The following tabular statement subdivides certain totals of timberland and timber in Table 11 among the four parts of the map:

TABLE 11a.—TIMBER ACREAGE AND TIMBER ON EACH OF FOUR PARTS OF OREGON MAP.

Parts of map.	Owned by holders of over 60 million feet each.						Owned by holders of less than 60 million feet each. Unplatted.		Total.	
	Platted.		Unplatted.		Total.					
	Timber acreage.[1]	Timber.	Timber acreage.[1]	Timber.	Timber acreage.[1]	Timber.	Timber acreage.[1]	Timber.	Timber acreage.[1]	Timber.
	Acres.	*Billion feet.*	*Acres.*	*Billion feet.*	*Acres.*	*Billion feet.*	*Acres.*	*Billion feet.*	*Acres.*	*Billion feet.*
Part I	984,895	71.4	238,862	16.2	1,223,757	87.6	324,075	15.9	1,547,832	103.5
Part II	825,838	58.6	111,820	7.0	937,667	65.6	324,600	13.3	1,262,267	78.9
Part III	1,251,222	69.5	158,700	9.0	1,409,922	78.5	515,288	18.8	1,925,210	97.3
Part IV	882,436	23.7	148,098	4.6	1,030,534	28.3	346,765	7.9	1,377,299	36.2
Total map area	3,944,391	223.2	657,480	36.8	4,601,880	260.0	1,510,728	55.9	6,112,608	315.9

[1] Including timber rights. See footnote 1 of Table 11 for distribution by groups, but not by parts of the map.

The total owned on the map area by the platted holders, 68 in number, amounts to 3,944,391 timbered acres, including timber rights, and 223.2 billion feet of timber. This is 70.7 per cent of the total timber on the map area. Some of these same holders have other timber outside of this selected area. But these 223.2 billion feet on the lands platted on this map to the 68 holders are 56 per cent of the total in the State and 64 per cent of the total in western Oregon.

Section 4. Holding of Southern Pacific Co. on map area. (Map symbol, solid black.)

The predominant feature of the Oregon map is the holding of the Southern Pacific Co. This is the largest single holding in western Oregon, totaling on the map area, 1,643,945 acres with 60.5 billion board feet of timber. It is 19.2 per cent of the total timber on the map area. The entire acreage with the exception of about 5,000 acres, is held in the name of the Oregon & California Railroad Co., practically all the stock of which is held by the Southern Pacific Co. The lands platted to the company on the four parts of the map contain about 85 per cent of the total timber owned by it in Oregon. These lands lie altogether in odd sections as originally granted.

This holding has been frequently referred to in Part I, and in Chapter I of Part II. Attention has been called to the Government's suit to forfeit the Oregon lands of the Southern Pacific Co. Since the publication of Part I, the lower court has declared the lands forfeited. The case, however, will no doubt be taken to the Supreme Court on appeal.

The unpatented Oregon lands of the company (lands still due under the East Side grant) are estimated in the Government's bill of complaint at about 293,000 acres. Of this, 23,774 acres in townships 27 S. 1 W., 28 S. 1 W., and 32 S. 11 W. (Part III of the map) have been publicly surveyed, and have been selected by the Oregon & California Railroad Co., but have not been patented, having been suspended by order of the Commissioner of the General Land Office to await the outcome of the Government suit. The remaining 270,000 acres estimated as due lie in as yet unsurveyed regions within the primary or indemnity limits.[1]

The Bureau ascertained the exact location of the 23,774 acres of pending surveyed selections too late to make a field investigation of the amount of timber thereon, though it is informed, in general, that they lie in heavily timbered townships. Neither the said 23,774 acres nor the 270,000 acres of unsurveyed lands are included in the merchantable-timber acreage and timber shown for the company in the various tables of this report. The 23,774 acres, however, are platted to the company.[2] The 270,000 acres are not platted.

Suits against purchasers of land from Oregon & California Railroad Co.—Not only did the Government institute a forfeiture suit against the Oregon & California Railroad Co. for the lands still retained by the company, but 45 suits were also instituted against purchasers of lands sold by the company in alleged violation of the terms of its grants. These suits covered each purchase of over 1,000 acres of the railroad land. By act of August 20, 1912, however, Congress authorized the Attorney General to compromise the suits against the purchasers, provided in each case that, if with the defendant's consent, a decree of the court were entered adjudging the land forfeited to the United States, the defendant should then be allowed to purchase from the United States, at $2.50 per acre, all his forfeited land originally purchased from the railroad. The grounds for this compromise are stated in the record of the hearings on the bill before the House and the Senate Committees on Public Lands. (H. R. 22,002; S. 5,885.) Briefly, the compromises were offered on the ground that there was strong indication that the purchases were made in good faith; that the lumber industry in western Oregon would be seriously crippled by the forfeitures; and that the Government's chance of winning the main suit against the railroad company would be stronger if the cases against the purchasers were compromised on these terms. The price of $2.50 per acre was admittedly nominal. A list stating the parties against whom suits were entered, the amount of land involved in each suit, and the purchase price, if known, is given in the "Report of the Attorney General concerning institution of certain suits," (S. Doc. No. 426, 61st Cong., 2d sess.). Practically all the purchasers have already accepted the compromise.

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[1] The records of the General Land Office show the possible maximum of the East Side grant to be 3,821,902 acres, and the acreage patented to be 2,765,677 acres. (Statement showing land grants made by Congress to aid in the construction of railroads, wagon roads, canals, and internal improvements, issued by the General Land Office, Department of the Interior, Washington, 1907.) The difference, 1,056,225 acres, would be the amount subject to selection under the grant, provided it were possible to find available locations within the indemnity limits for all "losses" within the primary limits. But according to the estimate only the 293,000 acres remain available for the company's selection.

[2] With the exception of 1,360 acres found to be in conflict with holdings platted on map to the first group.

Section 5. Holding of Weyerhaeuser Timber Co. on Oregon map area. (Map symbol, W.)

The Weyerhaeuser Timber Co. owns in Oregon as a whole 380,599 acres of timberland and 18.7 billion feet of timber. Of this holding, 247,950 acres and 15.8 billion feet of timber are on the map area. Its holding comprises 5 per cent of the total timber on the Oregon map area.[1] About 50,000 acres which the Weyerhaeuser Timber Co. has under contract from the Northern Pacific (being lands which the railway company has sold to the timber company, but has not yet deeded because it has not itself received patent for them from the Government) are properly credited to the Weyerhaeuser Timber Co. in the table, but are platted on the map with the symbol of the first map group (the heavy diagonal bar). The reason for not platting these contract lands with the Weyerhaeuser symbol is the same as already explained in connection with the company's contract lands in Washington. (See p. 29.) Conversely, in another tract of something over 5,000 acres of land, the Weyerhaeuser Timber Co. owns a three-fourths interest, the remaining one-fourth interest being owned by a member of the third group of 17 platted holders; and this tract of 5,000 acres is platted with the symbol of the Weyerhaeuser Timber Co., though in the table the proper division of acreage and timber is made between the joint owners.

Approximately 46 per cent of the Weyerhaeuser Timber Co.'s timbered acreage in the State was acquired from the Northern Pacific Railway Co. by the purchase of lieu selections which the railway company had made under the land grant. (See Part I, p. 237.) Practically all of its lands on Parts I, II, and III of the Oregon map were thus acquired. On the other hand, on Part IV of the map, in Jackson and Klamath Counties, all its lands were acquired from individuals, by purchase of some larger tracts already assembled by other companies, or by purchase of the stock of companies owning timber, and none was here acquired from the Northern Pacific. Included in the acreage of the Weyerhaeuser Timber Co. on this part of the map is a tract of 13,223 acres purchased by its subsidiary, the Pokegama Sugar Pine Lumber Co., from the Oregon & California Railroad Co., as shown by the list of suits just referred to.

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[1] The record owners of this holding are the Weyerhaeuser Land Co., the Pokegama Sugar Pine Lumber Co., and the Pelton-Reid Sugar Pine Lumber Co., all subsidiaries of the Weyerhaeuser Timber Co.

The Weyerhaeuser Timber Co.'s policy in western Oregon, where it is not a dominant holder, has been to retain all its timberland, instead of selling small accessible tracts as it has done in Washington. In western Oregon the company has made practically no addition to its holding since its early purchases from the Northern Pacific. But in Klamath and Lake Counties its policy has been rapidly to increase its holdings by buying up lands from small holders. This fact may indicate a purpose on the part of the Weyerhaeusers and their associates to become dominant in the pine region of south central Oregon; for the Booth-Kelly Lumber Co. (in which associates of Mr. Weyerhaeuser are stockholders) also has great timber holdings in this territory. The likelihood of such a purpose is enhanced by the fact that the new Oregon Trunk Railway (controlled jointly by the Northern Pacific and the Great Northern, in both of which the Hill interests are important stockholders) is pushing from the Columbia River up the Deschutes Valley to tap the country lying immediately east of the Cascades. It is apparently in this connection that the holding previously owned by Charles Altschul, trustee for Lazard Frères, was purchased in 1910 by the Oregon & Western Colonization Co., the president of which is Watson P. Davidson, a director in one of the Hill banks. This holding, comprising over 700,000 acres of the grant for the Willamette Valley & Cascade Mountain Wagon Road, stretches from Albany, on the Willamette River, to the eastern boundary of the State. West of the Cascades this wagon-road grant consists mainly of heavily timbered fir lands, and the eastern part, though mostly nontimbered, has very considerable areas of pine lands.

These facts, together with the apparent harmony between the Hill interests and the Weyerhaeuser interests, possibly indicate a plan to secure a dominating position in this timber region. This part of Oregon is one of the last valuable timber regions of the country yet to be exploited in any extended way, and one where, on account of lack of railroads, the large timber speculators had scarcely been investing till the last seven or eight years.

Section 6. Holdings of first group—three platted holders—on map area. (Map symbol, heavy diagonal bar.)

This group consists of the holdings of the C. A. Smith interests, of the Booth-Kelly Lumber Co. interests, and of the A. B. Hammond companies. These three holders, platted with a heavy diagonal bar, have on the map area 38 billion feet standing on 507,034 acres. Their timber is not quite one-eighth of that on the entire area of the map.

For reasons referred to above, approximately 50,000 acres of Weyerhaeuser lands contracted for from the Northern Pacific are platted with the symbol of this group, but in the table the acreage and timber are credited to the Weyerhaeuser Timber Co. and not to the group of three. One of the members of this group owns a half interest in approximately 55,000 acres, all of which, except 1,600 acres, carries merchantable timber, the other half interest being owned by a member of the third platted group. All this land is platted on the map to the first group, with the heavy diagonal bar. In the tables, however, half of the acreage and of the timber is counted to each group.

C. A. SMITH INTERESTS.—The great holdings of C. A. Smith in the map area are in the name of the C. A. Smith Timber Co., the C. A. Smith Fir Co., and the Linn and Lane Timber Co. Part of this holding was acquired by purchase from the Oregon & California Railroad Co. (19,772 acres), and part by purchase of Santa Fe Pacific scrip (14,160 acres) and Northern Pacific scrip (12,170 acres).[1] A larger proportion, however, was acquired by purchase of "timber claims" taken up by individual entrymen under the timber and stone act. It was with reference, apparently, to this holding that Mr. H. H. Schwartz of the General Land Office made the statement quoted in Part I, (p. 267), to the effect that trainloads of women school-teachers from Minnesota were sent to Oregon to take up lands under the timber and stone act, which lands were afterwards duly transferred to a single ownership. The chief agent of C. A. Smith in assembling his Oregon holdings was F. A. Kribs, who is himself associated with C. S. and C. J. Pillsbury and others in a large timber holding included in the following group of eight platted holdings. The Government has won cases against C. A. Smith, recently affirmed in the Federal circuit court of appeals, canceling the patents to 38 timber claims aggregating about 6,000 acres, on the ground of fraud (196 Fed., 593). The cases have been appealed to the Supreme Court.

BOOTH-KELLY LUMBER CO. INTERESTS.—The Booth-Kelly Lumber Co. has two allied companies, the California & Oregon Land Co. and the Oregon Land & Live Stock Co. The timber holdings of these interests are based primarily on the Federal grant for the Oregon Central Military Road from Eugene, Oreg., to the eastern boundary of the State (13 Stat., 355). The western portion of this wagon road is seen on Part II of the ownership map. The grant was made to the State of Oregon, which in turn designated as its grantee the Oregon Central Military Road Co., now succeeded by the California & Oregon Land Co. It covered the odd sections for 3 miles in width on each side of the road, and by act of December 26, 1866 (14 Stat.,

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[1] See pp. 75, 77, and 78.

374), right of indemnity was given to the unappropriated odd sections within 6 miles on each side of the road.[1]

The heavily timbered fir lands of the grant west of the Cascade Mountains were purchased and are now held by the Booth-Kelly Lumber Co. itself; and the pine lands east of the Cascades in Klamath County and part of Lake County by the Oregon Land & Live Stock Co. Still farther to the east the open lands in Lake, Harney, and Malheur Counties were disposed of to the Hunter Land Co., which in turn sold them to the Oregon Valley Land Co. The California & Oregon Land Co. now is, in effect, simply an intermediary for the Booth-Kelly Lumber Co. and the Oregon Land & Live Stock Co. to receive patents from the Government under this grant.

By act of June 21, 1906 (34 Stat., 368), the California & Oregon Land Co. was allowed to exchange the 111,000 acres belonging to it in the Klamath Indian Reservation in alternate sections along the line of the military road for a smaller area of other lands in a compact body also within the reservation. This consolidated acreage, now in the name of the Oregon Land & Live Stock Co., amounts to over 85,000 acres, solidly blocked in townships 31 and 32 S. in ranges 11, 12, and 13 E., off the map area to the eastward of Part IV. This is exceptionally well timbered with western pine. Besides the consolidated acreage within the Indian reservation the same company owns about 50,000 acres of timber outside the reservation in Klamath and Lake Counties, along the line of the road, making 135,000 acres of the granted lands now held by this subsidiary. On the map area of Part II about 40,000 acres held by the Booth-Kelly Lumber Co itself were originally patented under the military-road grant. The two companies together have 175,000 acres of wagon-road lands.

The Booth-Kelly Lumber Co.'s holding in western Oregon does not consist solely of lands granted for the military road. It has been augmented by purchase of between 65,000 and 70,000 acres from the Oregon & California Railroad Co., part of the Federal grant to the railroad. Some 17,000 or 18,000 acres of this land are still under contract, deeds not having passed. Besides military-road land and railroad land, the Booth-Kelly and Oregon Land & Live Stock companies have some 90,000 acres, part of which, presumably, was originally secured from the Government by individual entrymen under the timber and stone laws and the homestead laws.

It should be noted that a large proportion of the stock of the Booth-Kelly Lumber Co. is now owned by individuals closely affiliated (in other companies) with the Weyerhaeusers.

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[1] For a decision affirming the title of the California & Oregon Land Co. (as innocent purchaser) to the lands of this grant, see U. S. v. California & Oregon Land Co. (148 U. S., 31). The suit was intended by Congress to raise the question whether the road was constructed at all or not, but on account of a technicality of procedure evidence on this point was not admitted. (See also 192 U. S., 355.)

A. B. HAMMOND COMPANIES.—The lands of the A. B. Hammond companies were in part acquired from the Oregon & California Railroad Co. It appears that 19,427 acres were purchased in this way; and a half interest in 45,972 acres of the railroad lands was purchased by A. B. Hammond, the other half interest being purchased by Charles J. Winton of the Winton Timber Co. There are various subsidiaries of the A. B. Hammond Co. combined in this holding. (See Part I, p. 104.)

H. E. Huntington, a director in the Southern Pacific Co., is a director in one of the Hammond companies (Hammond Lumber Co.). Also the Hammond interests are connected with the Booth-Kelly Lumber Co. interests through an important common stockholder.

Section 7. Holdings of second group—eight platted holders—on map area. (Map symbol, heavy crosshatch.)

The second group of holders contains eight separate holdings. These eight holders own on the area of the map 532,116 acres and 36.6 billion feet of timber, which is 11.6 per cent of the total timber on the map area. The holders in this group are the Oregon & Western Colonization Co., associated with the Hill interests; the Wheeler interests (see Part I, p. 104); the Southern Oregon Co.; the Western Timber, Fir Tree Lumber, and Chapman Timber companies;[1] the John E. DuBois interests; Kribs and Pillsbury interests, in which F. A. Kribs and C. S. and C. J. Pillsbury are the chief individuals; Whitney Co. (Ltd.); and Blodgett Co. (Ltd.) (connected with the Booth-Kelly Lumber Co. through some of the individual stockholders, but not closely enough to identify the two concerns as a single interest).

Of these holdings, that owned by the Oregon & Western Colonization Co. and that owned by the Southern Oregon Co. were originally Federal land grants to the State to aid in the construction of wagon roads.

The recent purchase of the Willamette Valley & Cascade Mountain Wagon Road grant by the Oregon & Western Colonization Co. has already been referred to.[2] The location of the western portion of this road is shown on Part II of the map in central Linn County. The grant covered three sections per mile to be selected within 6 miles on each side of the road. There were no indemnity limits. Under this grant 861,512 acres have been patented, and the grant is adjusted and closed. The colonization company now owns about 700,000 acres of it. Through a great part of its extent this wagon road passes through nontimbered territory. The timbered acreage of the holding, as reported to the Bureau, is 178,720 acres. Of this, 74,380 acres of timbered land lie on the area of the map.[1]

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[1] The interests controlling the Western Timber Co., Fir Tree Lumber Co., and Chapman Timber Co. also control the Duluth Timber Co. and the McLeod Timber Co., which own timber in the Southern Pine Region.

[2] Page 56.

The Southern Oregon Co.'s holding is that originally patented to the Coos Bay Wagon Road Co., grantee of the State, to aid in the construction of a wagon road from Coos Bay to Roseburg, Oreg. The location of this road is shown on Part III of the map. The grant covered the odd sections for 3 miles in width on each side of the road, with indemnity in odd sections for 6 miles on each side of the road. Under this grant 105,240 acres were patented. Of this total, 100,678 acres are now held by the Southern Oregon Co., about 88,000 acres being heavily timbered.

The Government has attacked the title of the Southern Oregon Co. to this holding on the ground of failure to comply with a condition of the original grant requiring that the land be sold to settlers in 160-acre tracts, at not more than $2.50 per acre.[2] The defendants' demurrer was overruled in May, 1913. Both sides are now making final preparations to put in testimony.

The control of a majority of the stock of the Southern Oregon Co. has been recently secured by the Menasha Woodenware Co. or individuals connected therewith.[3] The president of the company is Charles R. Smith, who is also president of the Menasha Woodenware Co. The Menasha Woodenware Co. is a member of the group of 17 holders. The Southern Oregon Co.'s holding could not be combined with it, because the information was received after the maps and tables had been completed. Charles R. Smith is also interested in the Blackwell Lumber Co., one of platted holders of the Idaho map. (See p. 123.)

John E. DuBois, the Whitney Co. (Ltd.), and the Blodgett Co. (Ltd.), were among the early timber holders of western Oregon, their holdings having been assembled in the nineties when the Pacific coast timber region was just beginning to attract investors in timber. Stumpage values were very low at the time of their acquisitions. Of the lands of the Kribs and Pillsbury interests, 3,480 acres were purchased from the Oregon & California Railroad Co.

Section 8. Holdings of third and fourth groups of platted holders on map area.

HOLDINGS OF THIRD GROUP—17 PLATTED HOLDERS—ON MAP AREA. (MAP SYMBOL, SINGLE LIGHT DIAGONAL.)—The group of 17 holders owns 521,890 acres of timberland and 37.1 billion feet of timber. This is 11.7 per cent of the total timber on the map area. Among important holders in this group are the West Coast Timber Co. interests; the Wilson River Lumber Co.;[1] the Roach Timber Co.;[2] the Drew Timber Co. (which has some common stockholders with the Wilson River Lumber Co. and also with the Roach Timber Co., and which is closely connected with the Potlatch Lumber Co. and the Payette Lumber & Manufacturing Co., large holders in Idaho); the Simpson Lumber Co. of Coos County; and the J. and G. K. Wentworth interests. Nine members of this group of holders purchased an aggregate of more than 129,000 acres of the lands granted to the Oregon & California Railroad Co. In other words, about one-fourth of the entire timber acreage of this group is made up of railroad lands sold by the Oregon & California Railroad Co. in alleged violation of the terms of its grants.

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[1] In 1889 the Government attempted to secure the forfeiture of this grant for alleged nonconstruction of the road. (U. S. v. Willamette Valley & Cascade Mountain Wagon Road Co. et al., 42 Fed., 351; 140 U. S., 599, 622; 54 Fed., 807.)

[2] See bill of complaint of U. S. v. Southern Oregon Co., in the circuit court of the United States for the district of Oregon, ninth judicial circuit.

[3] American Lumberman, July 1, 1911, p. 75.

For 60,000 acres in which members of this group have a part interest, but which are platted, 5,000 acres to the Weyerhaeuser Timber Co. and 55,000 to the first group, see pages 55 and 57 above.

HOLDINGS OF FOURTH GROUP—38 PLATTED HOLDERS—ON MAP AREA. (MAP SYMBOL, DOUBLE LIGHT DIAGONAL.)—The last group of platted holders consists of 38 separate holders owning 491,456 acres of timberland and 35.1 billion feet of timber, which is 11.1 per cent of the total timber on the map area. Among the holders in this group are the Bradley interests (owning in this area principally in the name of the Merrill Lumber Co.); the Crossett Timber Co.;[3] the T. D. and E. S. Collins interests; and J. J. Rupp et al. These 38 holders have slightly over 35 billion feet on the map area, and they have in the State of Oregon over 38 billion feet; that is, the average size of this group of smaller platted holdings is 1 billion feet in the State. The T. D. and E. S. Collins holding includes 29,247 acres purchased from the Oregon & California Railroad Co. Three other members of this group, not named in this paragraph, hold about 11,000 acres of railroad lands, making the total of these lands for this group about 40,000 acres.

Section 9. Unplatted holdings on map area.

Table 11 shows that the unplatted holders on the Oregon map own 92.7 billion feet, or 29.3 per cent of the total timber on the map area. Of this amount 55.9 billion feet or 17.7 per cent of the total on the map is owned by holders who have less than 60 million feet. This leaves 36.8 billion, or 11.6 per cent, owned by the 195 unplatted holders of over 60 million feet each, an average for these of not quite 190 million feet against an average of over 3¼ billion feet for the 68 platted holders. That is, the size of the average platted holding is about 17 times that of the average unplatted holding of more than 60 million feet.

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[1] The interests controlling the Wilson River Lumber Co. also control the Olean Land Co., which owns timber in eastern Oregon.

[2] The Roach Timber Co. is controlled by interests that also control the William Musser Lumber Co. with holdings in eastern Washington. With the holdings of these two companies are included the holdings in northern Idaho owned in the name of the Cameron Lumber Co.

[3] The interests controlling this company also control the Crossett Lumber Co., the Fordyce Lumber Co., and the Jackson Lumber Co., which own timber in the Southern Pine Region.

A few unplatted holders, included in the group of 16 unplatted holders, have somewhat more timber on the map area than some holders whose lands have been platted. The reason for platting a few holdings that are somewhat smaller than some of the holdings not platted, has been explained in connection with the Washington map (p. 24, above).

Section 10. Additional land owned on Oregon map area by timber owners of over 60 million feet each.

The acreage shown in Table 11 is merchantable-timber acreage. Some of the holders, however, have additional acreage which has been reported to the Bureau. A statement of the reasons for believing that the Bureau's information on the amount of additional land is not complete is given above.[1] The following table repeats from Table 11 the merchantable-timber acreage for all holders owning over 60 million feet of timber each, and shows the additional acreage and total acreage held on the map area by these holders, so far as reported to the Bureau. The total acreage of each platted holder is platted on the map, including additional lands as well as timbered lands. Therefore, with the exceptions noted in the footnote, the figures for the platted holders in the total column below correspond to the amounts of land platted to the holders or groups as closely as survey acreage can be shown on a map of the present scale. The column for merchantable-timber land includes a negligible amount of timber rights, the distribution of which among the groups is not here indicated.

TABLE 12.—ACREAGE OF TIMBER (INCLUDING TIMBER RIGHTS) AND ADDITIONAL LAND OWNED ON OREGON MAP BY HOLDERS OF OVER 60 MILLION FEET EACH, BY GROUPS.

[Not all members of a group own additional land. The number of those owning such land is shown for each group, parenthetically in italics, in the additional land column.]

Holders.	Number of holders.	Merchantable-timber acreage.[2]	Additional land reported.	Total on map area.
Platted holders:		*Acres.*	*Acres.*	*Acres.*
Southern Pacific Co.	1	1,643,945	(*1*) 133,055	1,777,000
Weyerhaeuser Timber Co.	1	247,950	(*1*) 12,496	260,446
First group, 3 holders	3	507,034	(*3*) 36,160	543,194
Second group, 8 holders	8	532,116	(*4*) 32,137	564,253
Third group, 17 holders	17	521,890	(*6*) 10,421	532,311
Fourth group, 38 holders	38	491,456	(*11*) 25,885	517,341
Total, platted holders	68	3,944,391	(*26*) 250,154	4,194,545

[1] Page 17.

[2] Including 20,746 acres timber rights. For distribution of this by groups, see note 1 to Table 11.

TABLE 12.—ACREAGE OF TIMBER, ETC.—Continued.

Holders.	Number of holders.	Merchantable-timber acreage.	Additional land reported.	Total on map area.
Unplatted holders (grouped according to size of holding in State):		*Acres.*	*Acres.*	*Acres.*
16 holders of over 500 million feet each	16	119,477	(*2*) 1,500	120,977
32 holders of 250 million feet to 500 million feet each	32	206,255	(*8*) 6,700	212,955
58 holders of 125 million feet to 250 million feet each [1]	58	192,564	(*10*) 4,384	196,948
89 holders of 60 million feet to 125 million feet each	89	139,193	(*11*) 11,306	150,499
Total, unplatted holders of over 60 million feet each	195	657,489	(*31*) 23,890	681,379
SUMMARY.				
Platted holders	68	3,944,391	(*26*) 250,154	4,194,545
Unplatted holders of over 60 million feet each	195	657,489	(*31*) 23,890	681,379
Total, holders of over 60 million feet each	263	4,601,880	(*57*) 274,044	4,875,924

[1] Including 15,784 acres of Northern Pacific "lieu-scrip" land under contract to unidentified holders. This is not counted as an addition to the number of holders.

NOTES.

The amount of land platted on the four parts of the Oregon map to the various holders and groups is at variance with the total acreages shown in the above table in the following cases, some of which have been already explained:

1. *Southern Pacific Co.*—See page 54 regarding 23,774 acres of pending unpatented selections, probably well timbered, which are not included in the merchantable-timber acreage, additional, or total acreage of this holding in the above table. Of this tract, 22,414 acres are platted to the Southern Pacific Co., and 1,360 acres are claimed by and platted to one of the holders in the group whose symbol is the heavy diagonal bar.

2. *Weyerhaeuser Timber Co.*—See page 55 for discrepancies between the table and the acreage platted on the map.

3. *First group, three platted holders.*—See page 57 for discrepancies between the table and the acreage on the map.

4. *Second group, eight platted holders.*—One of the holders in the group of eight has, on the map area, roughly, 3,000 acres of land of which the Bureau does not have the exact location. Hence, the acreage platted on the map is about 3,000 acres less than the total acreage shown for the group in the above table. This difference is in the additional and total acreage, not in the merchantable-timber acreage.

5. *Third group, 17 platted holders.*—In the case of three members of this group no plats of exact location of part of the lands were furnished the Bureau, the acreage concerned amounting to over 11,000 acres. See pages 55 and 57 for further discrepancies between the table and the acreage platted on the map.

6. *Fourth group, 38 platted holders.*—Some of the companies in this group did not furnish the exact location of all their lands. On this account about 10,000 acres counted in the table could not be platted on the map.

7. A conflict of 1,360 acres between the Southern Pacific and the first group—three platted holders—has been noted in point 1 above. In addition to this conflict, the Bureau's reports show an unimportant acreage of scattered con-

flicts between the platted holders—cases where two companies are reported as owning the same land. These conflicts involve for the most part scattered forties or quarter sections, and are practically negligible. The total of all such conflicts is 9,840 acres.

Total acreage of timber holders of over 60 million feet on area of each part of Oregon map.—The following statement shows the total acreage owned by timber holders of over 60 million feet on each of the four parts of the western Oregon map separately. The corresponding total acreage figures for the four parts of the Oregon map taken together have been given above in Table 12. For convenience the present statement does not show "merchantable" and "additional" acreage, but only their sum, the total acreage, which includes a small proportion of timber rights. The "additional" acreage can be obtained by subtracting from the total acreage here given the acreage of merchantable-timber land for holders of over 60 million feet given in Table 11*a* (p. 53).

TABLE 12*a*.—TOTAL ACREAGE[1] OWNED ON EACH OF FOUR PARTS OF OREGON MAP BY TIMBER HOLDERS OF OVER 60 MILLION FEET.

Parts of map.	Platted.	Unplatted.	Total.
	Acres.	*Acres.*	*Acres.*
Part I	1,029,674	248,742	1,278,416
Part II	936,243	113,055	1,049,298
Part III	1,318,453	165,310	1,483,763
Part IV	910,175	154,272	1,064,447
Total, map area	4,194,545	681,379	4,875,924

[1] Including 20,746 acres timber rights. See note 1 of Table 11 for distribution by groups, but not by parts of the map.

Section 11. Total holdings in investigation area of holders platted on Oregon map.

Since the western Oregon map area covers only a selected region, it is desirable to show the timber holdings of the important holders of the map area in the Pacific-Northwest as a whole. For the power of a timber owner in a given region, as that of the western Oregon map, is enhanced if he has large interests in other timber regions as well. This total strength of the platted holders of the Oregon map will be shown (1) as regards timberland and timber, and (2) as regards total land holdings. The former point is of more immediate importance, but the total land holdings have a significant bearing upon the broader question of concentration of land ownership.

TOTAL TIMBER HOLDINGS IN PACIFIC-NORTHWEST.—The figures presented in Table 11 on page 52 show the timber strength of the 68 platted holders for the particular area of the western Oregon map. The following tables, Table 13 (timbered acreage), and Table 14 (merchantable timber), have been prepared to show the total timber strength of these 68 holders in the entire Pacific-Northwest. The regions of the Pacific-Northwest chosen for separate presentation in these two tables are western Oregon, western Washington, and California. In western Oregon the total strength of the 68 is shown both for "on map area," and "outside map area." Following the columns for the regions shown separately is a column headed "In other regions of Pacific-Northwest." In this column is tabulated whatever timber any of the 68 may have in eastern Oregon, eastern Washington, Idaho, or Montana. The table presents for each region, by groups, the total amount owned in that region by all members of each group who have any holdings there but many of them have no holdings outside of the map area itself. The tables, therefore, state the actual number of holders who own the amount shown for each group in each of the regions. Where the table would show only one or two holdings in a group in a region, the groups are combined to avoid revealing the estimates of individual holders.

The term "western Oregon" in these tables does not correspond to the division of the State called western Oregon in Part I of the Report. In Part I, western Oregon covers the counties west of the divide of the Cascade Mountains, and also Hood River County and Jackson County. On the other hand, in the present tables and in Part II of the Report generally, "western Oregon" includes not only all of western Oregon as defined in Part I, but also that part of Klamath County in eastern Oregon which is mapped on Part IV of the Oregon map; that is, the region to the west of Upper Klamath Lake. The difference is that in Part I of the Report all of Klamath County is included in the term "eastern Oregon," while in Part II and in the tables now to be presented a portion of the western side of Klamath County is taken as part of "western Oregon."

The two tables, 13 (timbered acreage), and 14 (merchantable timber), show the timbered acreage and merchantable timber of the same holders. The timber of any entry in Table 14 stands on the acreage shown for the corresponding entry in Table 13. The two tables will be discussed together.

TABLE 13.—ACREAGE[1] OF TIMBER OWNED IN PACIFIC-NORTHWEST BY THE PLATTED HOLDERS OF OREGON MAP, BY GROUPS AND BY REGIONS.

[Only part of the 66 grouped holders own any land outside the Oregon map area. The number those who do own in each region is given in the table, parenthetically in italics.]

Holders platted on Oregon map.	In western Oregon.[2]			In western Washington.	In California.	In other regions of Pacific-Northwest.	Total in Pacific-North-west.
	Total.	On map area.	Outside map area.				
	Acres.	*Acres.*	*Acres.*	*Acres.*	*Acres.*	*Acres.*	*Acres.*
Southern Pacific Co....	1,907,236	1,643,945	263,291	....	1,934,580	....	3,841,
Weyerhaeuser Timber Co..................	250,430	247,950	2,480	1,515,932	4,905	132,728	1,903,
First group, 3 holders...	(*11*) 1,061,041	(*3*) 507,034	(*4*) 21,891	(*5*) 45,287	(*4*) 363,676	(*6*) 297,660	(*3*) 848,
Second group, 8 holders..................		(*8*) 532,116					(*8*) 919,
Third group, 17 holders..................	(*55*) 1,053,624	(*17*) 521,890	(*13*) 40,278	(*18*) 114,115	(*4*) 17,999	(*15*) 566,249	(*17*) 1,007,
Fourth group, 38 holders..................		(*38*) 491,456			(*4*) 167,497		(*38*) 912,
Total, 68 holders..	(*68*) 4,272,331	(*68*) 3,944,391	(*19*) 327,940	(*24*) 1,675,334	(*14*) 2,488,657	(*22*) 996,637	(*68*) 9,432,

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[1] The figures in this table include 151,733 acres timber rights reported as follows: In western Oregon the map area, 20,746 acres, distributed by groups in note 1 of Table 11; outside the map area, 200 reported by the fourth group. In western Washington, Weyerhaeuser Timber Co., 8,920 acres; first and second group, 754 acres; third group and fourth group, 700 acres. In California, first group and ond group, 14,340 acres. In Pacific-Northwest as a whole, Weyerhaeuser Timber Co., 8,920 acres; group, 13,234 acres; second group, 2,585 acres; third group, 121,084 acres; fourth group, 5,910 acres.

[2] Including the part of Klamath County in eastern Oregon on Part IV of the Oregon map.

TABLE 14.—TIMBER OWNED IN PACIFIC-NORTHWEST BY THE 68 PLATT HOLDERS OF OREGON MAP, BY GROUPS AND BY REGIONS.

[In billions of board feet. Thus, 70.5=70,500,000,000 feet. Only part of the 66 grouped holders ow any timber outside the western Oregon map area. The number of those who do own in each region given in the table, parenthetically, in italics.]

Holders platted on Oregon map.	In western Oregon.[1]			In western Washington.	In California.	In other regions of Pacific-North-west.	Total in Pacific-North-west.
	Total.	On map area.	Outside map area.				
Southern Pacific Co............	70.5	60.5	10.0	....	35.1	....	105.
Weyerhaeuser Timber Co.......	15.9	15.8	.1	76.9	.1	2.8	95.
First group, 3 holders...........	(*11*) 75.7	(*3*) 38.1	(*4*) 1.0	(*5*) 3.0	(*4*) 28.2	(*6*) 5.7	(*3*) 58.
Second group, 8 holders..........		(*8*) 36.6					(*8*) 54.
Third group, 17 holders..........	(*55*) 74.1	(*17*) 37.1	(*13*) 1.9	(*18*) 6.5	(*4*) .8	(*15*) 13.4	(*17*)
Fourth group, 38 holders.........		(*38*) 35.1			(*4*) 7.4		(*38*)
Total, 68 holders..........	(*68*) 236.2	(*68*) 223.2	(*19*) 13.0	(*24*) 86.4	(*14*) 71.6	(*22*) 21.9	(*68*) 416.

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[1] Including the part of Klamath County in eastern Oregon on Part IV of the Oregon map.

The Southern Pacific's holding in western Oregon (including unde this term its holding on the map area in Klamath County) is 1,907,23 acres of timberland (Table 13) and 70.5 billion feet of timber (Tabl

14). Of this, 1,643,945 acres of timberland and 60.5 billion feet of timber lie on the four parts of the western Oregon map, leaving 263,291 acres of timberland and 10 billion feet of timber outside the map area. Its land off the map area lies mostly in western Lane County, with relatively small amounts in southern Lincoln County, Benton County, central Curry County, northern Clackamas County, and Multnomah County. In western Washington it has no timber. Its timber holding in California (including 75,320 acres just over the line in Nevada) amounts to 1,934,580 acres, with a stand of 35.1 billion feet of timber. This, with what it holds in Oregon, constitutes its total in the Pacific-Northwest, 3,841,816 acres of timberland and 105.6 billion feet of timber, the greatest single timber holding in the United States.

The Weyerhaeuser Timber Co.'s lands in western Oregon are practically all on the map area. Its timber holding here totals 250,430 acres (of which only 2,480 acres are off the area of the ownership map) and 15.9 billion feet of timber. In western Washington lies the bulk of this company's immense holding. Its total there—1,515,932 acres of timberland carrying 76.9 billion feet of timber—has already been discussed in previous sections of this volume and in Part I. In California the company has an insignificant amount. In "Other regions of Pacific-Northwest" it has 132,728 acres of land and 2.8 billion feet of timber. Of this acreage, 2,559 acres are in Idaho, and the remainder is all in eastern Oregon in Klamath and Lake Counties to the east of Part IV of the Oregon map. The Weyerhaeuser Timber Co.'s total in the Pacific-Northwest, as already stated, is 1,903,995 acres of timberland, on which stand 95.7 billion feet of timber, the second largest timber holding in the country.

For reasons noted above, the figures for the first and second groups of holders have not been shown separately in certain entries of the table, and the same is true in certain entries for the third and fourth groups. Thus, out of the three holders of the first group and the eight of the second group, there are only four holders who have timber in western Oregon outside the map area and only one of the four belongs to the second group of eight, the other three constituting the first group. Therefore, in order not to show separately what this one member of the second group owns outside the map area, the first two groups are combined and a single figure shown in the table for the two. The total for these two groups (comprising 11 holders) in Western Oregon, both on and off the map area, amounts to 1,061,041 acres of timberland and 75.7 billion feet of timber, of which the map area contains all but 21,891 acres and 1 billion feet. In the western Washington column of the table it has also been necessary to combine the first and second groups. Only 5 out of the 11 holders in the two groups have timber holdings in western Washington. In California 4 holders out of the 11 own 363,676 acres of timberland and 28.2 billion feet of timber. The total in the Pacific-Northwest is stated separately for each of the two groups. The first group—3 platted holders—has in the Pacific-Northwest as a whole 848,210 acres with 58 billion feet of timber, an average of almost 20 billion feet apiece. The second group—8 platted holders—has slightly more timber acreage in the Pacific-Northwest with slightly less timber, namely, 919,454 acres of timberland and 54.6 billion feet of timber. This is an average of nearly 7 billion feet to each member of the group.

It will also be seen that the third group, 17 holders and the fourth group, 38 holders, making 55 holders in the two groups, have been combined in certain columns of the table. The 55 own in western Oregon, including the mapped part of Klamath County, 1,053,624 timbered acres with 74.1 billion feet of timber. This, with 6.5 billion feet in western Washington, 8.2 billion in California, and 13.4 billion in other regions, makes up their total of 102.2 billion feet in the Pacific-Northwest.

The total in the Pacific-Northwest for all the 68 holders platted on the western Oregon map reaches the immense amount of 9,432,950 acres of merchantable-timber land, and 416.1 billion feet. Their timber in the Pacific-Northwest is one and seven-eighths times as much as their timber on the Oregon map area. The immensity of this total of 416.1 billion feet (=416,100,000,000 board feet of timber) is difficult to realize. All the sawmills of the Pacific-Northwest cutting at their present annual rate would not exhaust the timber of these 68 holders in a period of 52 years.

Timber owned in regions of Pacific-Northwest by holders selected from those platted on Oregon map.—The discussion just above shows the amount of timber owned in the different regions of the Pacific-Northwest by the 68 platted holders of the Oregon map, or by as many of them in each region as own timber there at all.

By a selection of certain of these holders the real degree of concentration may be more clearly seen. Since the total tables for the Pacific-Northwest (Tables 13 and 14) were presented to show what timber the platted holders own in addition to their holdings on the map, those holders are selected who own most timber *outside* the Oregon map area.

In western Oregon so little is owned off the map area by the platted holders (except the Southern Pacific) that a selection among them would not be significant. In western Washington 24 of the 68 holders of the Oregon map have timberlands, and in California 14. Of these, however, 9 have holdings both in western Washington and in California, so that the net number is 29. The 29 own in western Washington and in California 158 billion feet of timber.[1] No less than 112.1 billion of this are owned by 2 holders, the Southern Pacific and the Weyerhaeuser Timber Co. Three others (selected from the first and second groups of holders platted on the Oregon map) have in western Washington and California 29.1 billion feet. Three others (selected from the fourth group of platted holders) have 10.8 billion feet in those regions. Taking these 6 selected holdings, together with those of the Southern Pacific Co. and the Weyerhaeuser Timber Co., it is found that the 8, who own on the Oregon map area 2,404,901 acres of merchantable-timber land and 112.8 billion feet of timber, have an additional amount of 4,062,028 timbered acres and 152 billion feet in western Washington and in California. That is, 8 own, in these two regions, over 95 per cent of what all the 29 own.

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[1] In western Washington 86.4 and in California 71.6 billion feet. See Table 14.

In the Pacific-Northwest as a whole these same 8 own 279.6 billion feet of timber standing on 6,923,068 acres of timberland. Of this, the greater part (5,745,811 acres and 201.3 billion feet) is held by the Southern Pacific and the Weyerhaeuser Timber Co., and 1,117,257 acres and 78.3 billion feet by the 6 other selected holders. All the 68 platted holders of the Oregon map own 416.1 billion feet in the Pacific-Northwest; the 8 selected holders own two-thirds of this.

Selecting on the same basis 4 other holders, and adding their timber to that of the 8 selected above, would give 12 holders owning in the Pacific-Northwest 314.8 billion feet of timber, which is three-fourths of that owned by all 68. These 12 holders own 31 per cent of all the privately owned timber in the five States of the Pacific-Northwest; and the 8 selected above have 27.6 per cent.

The following table shows the holding in the Pacific-Northwest owned by the 12 selected holders, dividing their holdings to show the amount on the Oregon map area, and the amount outside that area:

TABLE 15.—TIMBER ACREAGE[1] AND TIMBER OWNED ON OREGON MAP AND IN PACIFIC-NORTHWEST BY 12 HOLDERS SELECTED FROM THOSE PLATTED ON OREGON MAP.

Holders selected.	On Oregon map area.		In Pacific-Northwest outside Oregon map area.		Total in Pacific-Northwest.	
	Acres.	*Billion feet.*	*Acres.*	*Billion feet.*	*Acres.*	*Billion feet.*
Southern Pacific Co	1,643,945	60.5	2,197,871	45.1	3,841,816	105.6
Weyerhaeuser Timber Co	247,950	15.8	1,656,045	79.9	1,903,995	95.7
5 holders selected from the first and second groups of platted holders	685,383	47.9	606,654	35.7	1,292,037	83.6
5 holders selected from the third and fourth groups of platted holders	91,097	7.0	679,713	22.9	770,810	29.9
Total, 12 holders	2,668,375	131.2	5,140,283	183.6	7,808,658	314.8

[1] The figures in this table include 141,024 acres reported as timber rights as follows: The Weyerhaeuser Timber Co., 8,920 acres in Pacific-Northwest outside Oregon map area; the 5 holders selected from the first and second groups, 405 acres on Oregon map area, and 15,094 acres in Pacific-Northwest outside Oregon map area; the 5 holders selected from the third and fourth groups, 3,500 acres on Oregon map area, and 113,105 acres in Pacific-Northwest outside Oregon map area.

Though the above tabular statement shows a very large amount of timber owned by a few selected holders, it should be understood that these selected holders are not the largest holders in the Pacific-Northwest, for this selection does not include the very large holders who have no timber on the Oregon map; for example, the Northern Pacific, T. B. Walker, and the Chicago, Milwaukee & St. Paul Railway Co. interests.

TIMBER OWNED IN LAKE STATES AND SOUTHERN PINE REGION BY HOLDERS PLATTED ON OREGON MAP.—The total-strength tables given above (Tables 13 and 14) cover the Pacific-Northwest. But there are 16 of these same 68 holders who also own timber in the Lake States or in the Southern Pine Region, or both; 8 holders owning 2.9 billion feet of timber in the Lake States standing on 402,762 acres of merchantable-timber land, and 10 holders owning 10.9 billion feet of timber in the Southern Pine Region standing on 1,195,985 acres. The total of the 16[1] in both regions, therefore, amounts to 13.8 billion feet of timber standing on 1,598,747 acres of merchantable-timber land. Adding these holdings to the 9,432,959 timbered acres and 416.1 billion feet of timber owned by the 68 in the Pacific-Northwest one finds their total timber strength in the investigation area, viz, 429.9 billion feet of timber, standing on 11,031,706 acres of merchantable-timber land. Besides, at least 2 of the holders have timberlands outside the investigation area. The Bureau has a report on one of these who owns 24,000 timbered acres in West Virginia with enough timber to raise the grand total to over 430 billion feet.

The following tabular statements will show, by groups, the amounts of timber just referred to as owned in the Lake States and also in the Southern Pine Region by holders platted on the Oregon map. The 8 holders who own in the Lake States are blocked in two groups of 4 holders each. The first group of 4 is made up of one member of the group of 3 platted holders, one member of the group of 8, and two members of the group of 17. The second group consists of 4 holders from the group of 38 platted holders.

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[1] Two of those in the Lake States own also in the South so that though there are 8 in one region and 10 in the other, the total is only 16.

TABLE 16.—TIMBER ACREAGE[1] AND TIMBER OWNED ON OREGON MAP AND IN LAKE STATES BY 8 HOLDERS PLATTED ON OREGON MAP.

Holders platted on Oregon map.	On Oregon map.		In Lake States.	
	Timber acreage.	Timber.	Timber acreage.	Timber.
	Acres.	*Billion feet.*	*Acres.*	*Billion feet.*
4 holders from first, second, and third groups of platted holders	370,756	27.9	195,370	1.6
4 holders from fourth group of platted holders	78,226	4.6	207,402	1.3
Total, 8 holders	454,982	32.5	402,762	2.9

[1] The figures in this table include 13,070 acres reported as timber rights as follows: The 4 holders of first, second, and third groups, 1,490 acres in western Oregon, and 1,160 acres in Lake States. The 4 holders of fourth group, 10,420 acres in Lake States.

The 10 holders who own in the Southern Pine Region are also thrown into two groups. The first group comprises 4 holdings. In one of these (a holding of less than 1 billion feet) the Southern Pacific has an interest; the other 3 are owned by two members of the group of 8 platted holders, and one member of the group of 17. The second group comprises 6 members of the group of 38 platted holders.

TABLE 17.—TIMBER ACREAGE[1] AND TIMBER OWNED ON OREGON MAP AND IN SOUTHERN PINE REGION BY 10 HOLDERS PLATTED ON OREGON MAP.

Holders platted on Oregon map.	On Oregon map.		In Southern Pine Region.	
	Timber acreage.	Timber.	Timber acreage.	Timber.
	Acres.	*Billion feet.*	*Acres.*	*Billion feet.*
4 holders	1,786,144	71.0	672,123	6.1
6 holders	79,618	5.3	523,863	4.8
Total, 10 holders	1,865,762	76.3	1,195,986	10.9

[1] The figures in this table include 48,744 acres reported as timber rights as follows: On Oregon map, the 4 holders, 405 acres; the 6 holders, 3,900 acres. In Southern Pine Region, the 4 holders, 6,999 acres; the 6 holders, 37,440 acres. The figures for the 6 holders in Southern Pine Region also include 22,201 acres not distinguished between fee and rights.

TOTAL LAND HOLDINGS.—Passing from the total timber of the 68 holders platted on the Oregon map to their total land holdings. This is made up of their merchantable-timber acreage (including a small proportion of timber rights) and their "additional" land in the various timbered portions of the Pacific-Northwest. The "additional" land consists of denuded or burned land, or of open land that has never carried timber. As stated above, the Bureau's figures for the additional lands are not necessarily complete and are limited to the timber counties.[1]

In particular, the figure in the following table for additional land of the Southern Pacific in the Pacific-Northwest does not include several million acres owned by it in southern California in nontimbered counties. What it owns in these nontimbered counties, with its land-grant holding outside the investigation area, amounts to 9,358,000 acres, all of which is excluded from its figure in this table. Its total land-grant holding in the country, timbered and nontimbered, is reported as 13,880,000 acres (see Part I, p. 233), while only 4,522,000 acres fall within the limitations of the table. Also, 485,000 acres belonging to the Oregon & Western Colonization Co. in the nontimbered parts of eastern Oregon are excluded from the table.

Table 18 shows the additional and total acreage owned by all 68 holders platted on the Oregon map in the entire Pacific-Northwest. Only 29 holders out of the 68 were reported as owning additional land. The first acreage column repeats from Table 13 the merchantable-timber acreage, including timber rights, of the 68 holders; the second shows the additional acreage of the 29 holders owning additional land, and the third shows the total.

TABLE 18.—ACREAGE OF TIMBER (INCLUDING TIMBER RIGHTS) AND ADDITIONAL LAND OWNED IN TIMBERED PORTIONS OF PACIFIC-NORTHWEST BY THE 68 PLATTED HOLDERS OF OREGON MAP, BY GROUPS.

Holders platted on Oregon map.	Merchantable-timber acreage.[2]		Additional land reported.		Total.	
	Number of holders.	Acres.	Number of holders.	Acres.	Number of holders.	Acres in timbered portions of Pacific-Northwest.
Southern Pacific Co.	1	3,841,816	1	[3] 551,005	1	4,392,821
Weyerhaeuser Timber Co.	1	1,903,995	1	40,904	1	1,944,899
First group, 3 holders	3	848,210	3	47,800	3	896,010
Second group, 8 holders	8	916,454	5	[4] 49,377	8	965,831
Third group, 17 holders	17	1,007,398	6	10,381	17	1,017,779
Fourth group, 38 holders	38	912,096	13	48,905	38	961,001
Total, 68 holders	68	9,432,980	29	748,372	68	10,181,352

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[1] Page 17.

[2] The figures in this column include 151,713 acres reported as timber rights as follows: The Weyerhaeuser Timber Co., 8,920 acres; the first group, 13,234 acres; the second group, 2,585 acres; the third group, 121,064 acres; the fourth group, 5,910 acres.

[3] Several million acres of additional land owned by the Southern Pacific in southern California, as well as the very large amount of land owned by it entirely outside the investigation area, are omitted from this table, and from the tables of this Report generally. The company's total land-grant acreage in the whole country (13,879,932 acres) is stated in Part I, p. 233. The total additional land here shown for the Southern Pacific is therefore incomplete, and all totals which include it are also incomplete.

[4] Excluding about 485,000 acres of nontimbered lands owned by Oregon & Western Colonization Co. in eastern Oregon.

The distribution among the various regions of the Pacific-Northwest of the 9,432,959 acres of merchantable-timber land has already been given in Table 13. Of the 551,000 acres of additional land shown for the Southern Pacific, 172,000 acres lie in western Oregon,[1] and 379,000 acres in California. Of the additional land of the Weyerhaeuser Timber Co., about 13,000 acres lie in western Oregon,[1] 26,000 in western Washington, and 2,000 in California. Of the 97,000 acres of additional land owned by the first and second groups, 86,000 acres lie in western Oregon,[1] 1,000 in western Washington, and 10,000 in California. Of the 59,000 acres of additional land owned by the third and fourth group about 42,000 acres lie in western Oregon,[1] 12,000 in western Washington, and 5,000 in eastern Washington.

The 10,181,000 acres shown as the total for the 68 holders in the timbered counties of the Pacific-Northwest, are distributed as follows: 4,585,000 acres in western Oregon,[1] 1,714,000 acres in western Washington, 2,880,000 acres in California, and 1,002,000 acres in other parts of the Pacific-Northwest.

The 16 holders tabulated in Tables 16 and 17 as owning timber in the Lake States and the Southern Pine Region, as well as on the Oregon map area, have the total acreage shown in the following statement, their merchantable-timber acreage being repeated from the tables referred to. The groupings of holders in this statement are the same as in those tables.

TABLE 19.—ACREAGE OF TIMBER (INCLUDING TIMBER RIGHTS) AND ADDITIONAL LAND OWNED IN LAKE STATES AND IN SOUTHERN PINE REGION BY HOLDERS PLATTED ON OREGON MAP.

[Not all members of a group own additional land. The number of those owning such land is shown for each group, parenthetically in italics, in the additional land column.]

Holders platted on Oregon map.	Merchantable-timber acreage.[2]	Additional land reported.	Total.
In Lake States:	*Acres.*	*Acres.*	*Acres.*
4 holders from first, second, and third platted groups	195,270	(*3*) 69,821	265,091
4 holders from fourth platted group	207,492	(*3*) 111,425	318,917
Total, 8 holders in Lake States	402,762	(*6*) 181,246	584,008
In Southern Pine Region:			
4 holders	672,123	(*1*) 700	672,823
6 holders	523,862	(*2*) 55,230	579,092
Total, 10 holders in Southern Pine Region	1,195,985	(*3*) 55,930	1,251,915
Grand total, 16 holders in Lake States and Southern Pine Region	1,598,747	(*9*) 237,176	1,835,923

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[1] Including the part of Klamath County in eastern Oregon, on Part IV of the Oregon map.

[2] The figures in this column include 56,019 acres reported as timber rights as follows: In Lake States, the 4 holders from first, second, and third groups, 1,160 acres; the 4 holders from fourth group, 10,420 acres. In Southern Pine Region, the 4 holders, 6,999 acres; the 6 holders, 37,440 acres. The figures for the 6 holders in Southern Pine Region also include 22,201 acres not distinguished between fee and rights.

The 1,835,923 acres owned in the Lake States and the Southern Pine Region by the 68 holders platted on the Oregon map, added to their total in the Pacific-Northwest, 10,181,331 acres, give a grand total of 12,017,254 acres,[1] of which 1,011,548 acres are additional land and the remainder timbered. This represents the amount of land reported by these holders in the timbered portions of the investigation area, and excludes the several million acres of Southern Pacific land in southern California and the 485,000 acres in eastern Oregon held by the Oregon & Western Colonization Co. (See Part III, Chap. II, sec. 4)

If to the 12,000,000 acres here shown, there are added the 485,000 acres of the Oregon & Western Colonization Co. in nontimbered parts of eastern Oregon and the 9,487,000 acres of the Southern Pacific excluded from the tables, it appears that in the country as a whole these 68 holders control practically 22,000,000 acres of land, of which practically 21,800,000 acres are owned in fee. The holdings of these 68 would be enough to give each of the 20,000,000 families in the United States more than an acre of land apiece.

Total land holdings owned in Pacific-Northwest by holders selected from those platted on the Oregon map.—The following tabular statement shows the additional and total acreage in the Pacific-Northwest of the 12 selected holders whose timbered acreage and timber are tabulated on page 69. The groupings are the same. The acreage of merchantable-timber land (which includes some timber rights) is repeated from the former statement.

TABLE 20.—ACREAGE OF TIMBER (INCLUDING TIMBER RIGHTS) AND ADDITIONAL LAND OWNED IN TIMBERED PORTIONS OF PACIFIC-NORTHWEST BY THE 12 SELECTED HOLDERS SHOWN IN TABLE 15.

[Not all members of a group own additional land. The number of these owning such land is shown for each group, parenthetically in italics, in the additional land column.]

Holders selected from those platted on Oregon map.	Merchantable-timber acreage.[2]	Additional land reported.	Total in timbered portions of Pacific-Northwest.
	Acres.	*Acres.*	*Acres.*
Southern Pacific Co.	3,841,816	(*1*) [3]551,005	4,392,821
Weyerhaeuser Timber Co.	1,903,905	(*1*) 40,904	1,944,809
5 holders selected from first and second platted groups	1,292,037	(*5*) 48,760	1,340,797
5 holders selected from third and fourth platted groups	770,810	(*2*) 18,347	789,157
Total, 12 holders	7,808,658	(*9*) 659,016	8,467,674

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[1] Of this total, 297,732 acres are reported as timber rights and 22,301 acres not distinguished between fee and rights.

[2] The figures in this column include 141,034 acres reported as timber rights as follows: The Weyerhaeuser Timber Co., 8,930 acres; the 5 holders from first, second, and third groups, 15,499 acres; the 5 holders from fourth group, 116,605 acres.

[3] See footnote 3 of Table 18, p. 73.

Taking the 8,467,000 acres of these 12 selected holders in the timbered parts of the Pacific-Northwest and adding the Southern Pacific's 9,487,000 acres owned elsewhere in the country, gives a total for 12 holders of nearly 18,000,000 acres. This means that in the hands of these 12 holders there is the equivalent of five-sixths of an acre of land for each of the families in the United States.

Section 12. Present ownership of lands in Oregon originally granted for railroad and wagon-road construction.

Frequent references have been made to the land grants in Oregon in aid of railroads and wagon roads. A résumé of the present ownership of these granted lands, so far as reported to this Bureau by timber holders, is given in the following tabular statements. The military wagon roads, excepting the Coos Bay & Roseburg road, traversed principally nontimbered country; and this fact explains why so small a proportion of such grants is covered by the Bureau's timber reports. The tabular statements which follow cover the grants without reference to their being on the map area or outside it.

Oregon & California Railroad Co. land grant.—The following table shows the present ownership of the two grants of the Oregon & California Railroad Co. which is now controlled by the Southern Pacific Co. Both these grants lie entirely in the State of Oregon.

TABLE 21.—PRESENT OWNERSHIP OF GRANTS OF OREGON & CALIFORNIA RAILROAD CO. (NOW CONTROLLED BY SOUTHERN PACIFIC CO.).

[See pp. 5 and 54 regarding title to this land.]

Present holders.	Granted land owned.	Per cent of total granted acreage.
	Acres.	
Retained by Southern Pacific Co.	2,079,281	73
Transferred to reported timber holders:		
Booth-Kelly Lumber Co.	68,629	
A. B. Hammond companies	42,400	
T. D. and E. S. Collins interests	28,867	
J. and G. K. Wentworth interests	24,680	
Winton Timber Co.	22,972	
Roach Timber Co.	20,201	
C. A. Smith interests	19,773	
Transferred to reported timber holders—Contd.	*Acres.*	
A. C. Hopkins	15,832	
Avery, Richardson, and Green	15,730	
West Coast Timber Co. interests	14,217	
Weyerhaeuser Timber Co.	12,320	
C. K. Spaulding Logging Co.	7,369	
Northern California Timber Co.	5,973	
Drew Timber Co.	5,497	
Oshkosh Land & Timber Co.	4,616	

TABLE 21.—PRESENT OWNERSHIP OF GRANTS OF OREGON & CALIFORNIA RAILROAD CO., ETC.—Continued.

Present holders.	Granted land owned.	Per cent of total granted acreage.
Transferred to reported timber holders—Contd.	*Acres.*	
Willamette Lumber Co.	4,440	
Downs interests	3,958	
Ashland Manufacturing Co.	3,901	
Keith Oil & Land Co.	3,698	
Big Bend Milling Co.	3,647	
Kribs and Pillsbury interests	3,440	
Leona Mills Co.	3,240	
Morton and Lewis	3,160	
Crater Lake Lumber Co.	3,000	
Simson and Levy	2,883	
Gardiner Mill Co.	2,804	
Olsen Land Co.	2,676	
Jacob Rahm	2,560	
Edwin Fowler	1,939	
Transferred to reported timber holders—Contd	*Acres.*	
Crossett Land & Investment Co.	1,720	
Forster Lumber Co.	1,476	
Glendale Lumber Co.	1,372	
White and Von Platen	1,280	
William M. Ladd	1,280	
Gilbert Gilbertson	1,245	
Elk Creek Lumber Co.	1,160	
7 other holders	4,307	
Total	369,460	13
Total accounted for	2,448,750	85
Unaccounted for	445,545	15
Total patented under grants	2,894,295	100

This table shows that timber owners reported to the Bureau now own all but 15 per cent of the Oregon & California Railroad's land grant. The amount retained by the Southern Pacific is 72 per cent, and the amount transferred to other reported timber holders is 13 per cent. The amount thus transferred to timber holders reported to the Bureau is a very high proportion of all the land alleged to have been sold in violation of the terms of the grant.

Regarding the Government's suit to recover the land still held by the railroad company, see page 5 above, and regarding the compromise of the suits against the purchasers, see page 54.

NORTHERN PACIFIC LAND GRANT.—The Bureau does not have any complete record of the location of the land patented under the Northern Pacific grant in Oregon. It has a record only for that part of the deeded lands and part of the contract lands which lie in timbered regions. The following tabular statement is therefore incomplete. Practically all the land included here is lieu-selection land.

TABLE 22.—PRESENT OWNERSHIP OF NORTHERN PACIFIC GRANT IN OREGON.[1]

[Incomplete.]

Present holders.	Granted land owned in Oregon.	Present holders.	Granted land owned in Oregon.
	Acres.		*Acres.*
Weyerhaeuser Timber Co.	177,461	Olean Land Co.	1,680
C. A. Smith interests	12,170	William C. Slattery	1,480
T. H. Shevlin interests	10,520	Wallowa Timber Co.	1,100
Brookings Box & Lumber Co.	6,400	Frank E. Alley	1,080
Storey-Bracher Lumber Co.	5,560	33 other holders	12,000
A. B. Hammond companies	5,140		
Wheeler interests	4,000	Total accounted for	245,011
Grand Rapids Oregon Timber Co.	2,520	Under contract to miscellaneous holders.	19,509
Rogers-Youmans Lumber Co. interests	2,120		
Alworth-Washburn Co.	1,720	Total (incomplete)	264,520

[1] The Northern Pacific still retains the ownership of about 235,000 acres of nontimbered land within the limits of its grant in northern central Oregon near the Columbia River. This is not included in the table.

The total acreage patented under the Northern Pacific grant in Oregon up to June 30, 1910, was 577,818. (See Part I, p. 235, where this grant is discussed.) A considerable part of the lands in the above table is unpatented, though the railroad has transferred its rights by contract of sale. Such unpatented lands, therefore, are not included in the total of 577,818.

The foregoing tabular statement covering the present ownership of all classes of Northern Pacific land so far as known to the Bureau should be compared with that of land in Oregon acquired by means of Mount Rainier and Pacific Forest Reserve lieu-scrip selections. This special class of selections constitutes 189,717 acres (see Part I, p. 239) out of the total of 264,520 acres just shown.

Atlantic & Pacific Railroad grant.—The present ownership of the forest-lieu selections made under the Atlantic & Pacific Railroad grant (now held by its successor, the Santa Fe Pacific, a subsidiary of the Atchison, Topeka & Santa Fe) has been stated on page 242 of Part I. With the figures for the Santa Fe scrip selections were also given figures for Aztec Land & Cattle Co. scrip, Robert and E. B. Perrin scrip, and for selections by William F. Baker and Saginaw & Manistee Lumber Co. All these lieu selections were based, as explained, on the original Atlantic & Pacific Railroad land grant in New Mexico and Arizona. The total in the State of Oregon of this group of scrip selections based on the Atlantic & Pacific grant amounts to 201,224 acres. Of this amount, 104,480 acres are accounted for in the present ownership of timber holders reported to the Bureau. The principal owners of these lieu selections, with the amounts owned in Oregon, are here listed.

TABLE 23.—PRESENT OWNERSHIP OF LIEU-SCRIP SELECTIONS IN OREGON, BASED ON ORIGINAL ATLANTIC & PACIFIC GRANT.

Present holders.	Lieu-scrip selections owned in Oregon.	Present holders.	Lieu-scrip selections owned in Oregon.
	Acres.		*Acres.*
William Wentz et al. (stockholders in the Saginaw & Manistee Lumber Co., of which William F. Baker was formerly president)	[1] 35,300	Wright-Blodgett Co.	2,2
C. A. Smith interests	14,100	Irvine Family interests	2,2
Brewer-Knapp Co.	10,460	Willis & Elrod	2,0
T. H. Shevlin interests	5,020	Western and Chapman timber companies	1,1
D. C. Daniels	4,760	63 other holders	15,2
Bend Lumber Co.	3,000	Total accounted for	104,4
Kinzua Lumber Co.	2,880	Unaccounted for	96,7
Weyerhaeuser Timber Co.	2,480	Total selections in Oregon	201,2
Goddard & Storey	2,400		

[1] All selected in the name of William F. Baker or Saginaw & Manistee Lumber Co.

OREGON CENTRAL MILITARY ROAD GRANT.—The grant to the Oregon Central Military Road extends from Eugene, Oreg., on the Willamette River, to the eastern boundary of the State, and through a large part of its extent traverses nontimbered country. As to the present ownership, the Bureau has record only of the amount of the timberland reported by the Booth-Kelly Lumber Co. interests, who now control it from Eugene eastward well into Lake County. These interests reported to the Bureau the ownership of 175,000 acres of the granted lands, of which about 135,000 acres are held in the name of the Oregon Land & Livestock Co., and about 40,000 acres in the name of the Booth-Kelly Lumber Co. itself. The amount patented under this grant up to June 30, 1910, was 605,861 acres, and the estimated area of the entire grant, practically all of which will eventually be patented, is 845,536 acres.[1] A large part of the land, therefore, is unaccounted for, but the Bureau's general information is that the Oregon Valley Land Co. bought the eastern part of the grant in eastern Lake County, and also in Harney and Malheur Counties.

THE DALLES MILITARY ROAD GRANT.—The Dalles Military Road grant lies largely in nontimbered country in eastern Oregon. Up to June 30, 1910, there had been patented under it 556,827 acres of land, which practically effects a complete adjustment. The successor of the original grantee is the Eastern Oregon Land Co. The Bureau is informed that this company holds 36,360 acres of timbered land patented under the grant, but is not informed how much nontimbered land it still retains.[1]

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[1] The Government's unsuccessful forfeiture suit, in 1889, alleging failure to construct the road as required by law, has been referred to above (p. 58, note).

Coos Bay & Roseburg Wagon Road grant.—The grant to the Coos Bay & Roseburg Wagon Road was originally transferred by the State to the Coos Bay Wagon Road Co. After several intermediate transfers, it was purchased practically in its entirety by the Southern Oregon Co. The previous transfers and the present ownership by the Southern Oregon Co. are alleged to be in violation of the terms of the grant. (See p. 60, above, for Government's pending suit for forfeiture.) The grant is adjusted and closed. The estimated area was 99,819 acres, but 105,240 acres have been patented.

TABLE 34.—PRESENT OWNERSHIP OF GRANT TO COOS BAY WAGON ROAD CO.

[See p. 60 regarding title to this land.]

Present holders.	Granted land owned.	Present holders.	Granted land owned.
	Acres.		*Acres.*
Retained by Southern Oregon Co	100,678	Menasha Woodenware Co	80
C. A. Smith interests	2,200	Total accounted for	104,978
Simpson Lumber Co. of Coos County	820	Unaccounted for	262
Chambers estate	680	Total patented under grant	105,240
Merchants Land Co	520		

Corvallis & Yaquina Bay Wagon Road grant.—The grant for the Corvallis & Yaquina Bay Wagon Road extends from Corvallis on the Willamette River to the Pacific Ocean, a distance of 47 miles. It traverses the open country of the Willamette Valley and the region of the great Yaquina Bay burn, where there has been little restocking with second-growth timber. Under it, up to June 30, 1910, there had been patented 81,895 acres. The grant is practically adjusted, though not closed.

Of this total, only 14,400 acres are accounted for in reports made to this Bureau. The largest reported holding is that of L. H. Fish and A. J. Hodges, namely, 4,920 acres. There are two other holdings of more than 2,000 acres each, and three others of as much as 1,000 acres each.

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[1] An unsuccessful suit for forfeiture of this grant was brought in 1889 on practically the same grounds as the Oregon Central Military Road grant.

Willamette Valley & Cascade Mountain Wagon Road gran Up to June 30, 1910, there had been patented under the grant for t Willamette Valley & Cascade Mountain Wagon Road 861,512 acr and it is adjusted and closed. The successor to the original grant the Oregon & Western Colonization Co., which in 1910 acquired fr Charles Altschul, trustee for Lazard Frères, the 800,000 acres of t grant then retained. This company has since disposed of abo 100,000 acres. Much of the grant lies in nontimbered portions eastern Oregon, but the Bureau's report from the former owner sho that about 180,000 acres of the holding is timbered. It is assum that the 100,000 acres sold by the company are nontimbered.[1]

NOTE.

State lands.—The State of Oregon is not an important holder of timber. western Oregon, including that part of Klamath County on the map area, t State now owns less than 4,000 acres of land, of which all but 300 acres is the area of the map. Some 2,000 acres of this lies in Klamath County. For t counties of eastern Oregon the Bureau has no complete information as to t acreage of State lands. In Crook, Grant, Klamath, and Lake Counties the Sta has considerable holdings, mostly of granted school lands in sections 16 and It appears safe to say, however, that most of the good timber originally he has been sold, and that the State of Oregon owns far less timber than the Sta of Washington.

Prior to 1903 the [illegible] was fixed at not less than $1.25 per acre. In th year the price of indemnity school lands was raised to a minimum of $2.50 p acre. Indemnity school lands are those which the State has a right to select indemnify it for lands already disposed of by the Government or otherwi rendered unavailable to the State in the granted sections 16 and 36. In 19 the price of indemnity school lands was again raised by law to a minimum $5 per acre. (The price actually asked by the State in 1910, as seen by t circular quoted below, was $15 per acre.) The same act fixed the minimum pric of school lands (not indemnity), university, agricultural college, and swam lands at $2.50 per acre; the former minimum for these lands having been $1. except for swamp lands, which were $1 per acre. In February, 1911, all law fixing a minimum price were repealed, and the price at which "all classes o lands of the State" are to be sold is left to the discretion of the State Lan Board.[2]

The reason why the school indemnity lands sell at a higher value is that the may be selected from any vacant, surveyed, nonmineral public land in th State. Instead of itself making selection as Washington did, Oregon's metho under the law amounts to the sale of scrip by the State, the actual selectio being made by the purchaser and the formal selection afterwards filed wit the General Land Office by the State. The State conveys the land to the pur chaser as soon as it itself receives patent from the Federal Government. Thi is the same method followed by the land-scrip railroads.

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[1] The Government also brought an unsuccessful suit in 1889 for forfeiture of this gran on substantially the same grounds as in the cases against the Oregon Central and Th Dalles Military Road grants.

[2] General Laws of Oregon, 1911, p. 105.

By the present law any legal applicant making the affidavit of good faith is allowed to purchase 320 acres "of each of the following classes of land, to wit: School, indemnity, university, college, swamp, or tide and overflow lands."[1]

From the beginning the Oregon statutes regarding the various classes of State lands have restricted the amount that one purchaser could take (usually to 320 acres), with the two exceptions following: (1) In 1870 the State legislature authorized the sale of swamp lands without restriction of amount, but in 1878 this was repealed, and the restriction of 320 acres to each purchaser was substituted. (2) Tide lands were also sold without restriction of amount from [illegible] to 1907, but since 1907 only 320 acres of this class of land have been purchasable by any one person.

Two large holders of timber in the Oregon map area (one of them platted in the group of 38) have all their lands in sections 16 and 36.

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[1] General Laws of Oregon, 1907, p. 213.

CHAPTER IV.

CONCENTRATION OF TIMBER OWNERSHIP IN NORTHEASTERN CALIFORNIA AND IN THE REDWOOD BELT.

Section 1. Amount and general distribution of timber in California.

California stands third among the States in total amount of privately owned standing timber, having 248.1 billion feet. Of this, 203.6 billion or 82 per cent are within the areas selected for this discussion, viz, northeastern California, and the four redwood counties along the north coast. These areas represent the major portions of the two great private timber regions of the State.

The timber regions of California follow closely the principal mountain ranges, separated for most of the length of the State by the Sacramento and San Joaquin Valleys, but uniting from the neighborhood of Redding northward. The eastern timber belt following the Cascades and Sierras extends considerably farther south than the western belt following the Coast Range, and is practically continuous. In the coast timber belt there is a marked break some distance north of San Francisco, and when the belt appears again to the south it is much narrower and much less important. Toward the south, in the vicinity of Los Angeles, as the coast sweeps toward the east, this timber belt nearly meets the southern limits of the Sierra belt. There is comparatively little privately owned timber along the coast below San Francisco, except in San Mateo and Santa Cruz Counties. The stands are small in southern California, and a large area in the southeastern part of the State is nontimbered. There are also considerable areas in the northeastern part of the State which have little or no timber, in addition to the great open valleys of the Sacramento and San Joaquin already referred to.

The coast timber belt north of San Francisco falls into two very dissimilar parts, the great redwood belt on the west and a pine and fir district on the immediate east. The great bulk of the redwood is confined to a narrow strip, varying from 10 to 30 miles in width, running along the northern coast through Del Norte, Humboldt, and Mendocino Counties, and a part of Sonoma. A comparatively small amount is found in San Mateo and Santa Cruz Counties, and isolated tracts are found in sheltered spots as far south as Monterey County.

Farther east, following the Cascades and Sierra Nevadas and extending south more than half the length of the State, are the heaviest stands of western pine and sugar pine, mixed with a considerable proportion of Douglas and white fir and smaller amounts of spruce and cedar. Douglas fir decreases in importance toward the south, and there is a corresponding increase in the importance of white fir. In the southern Sierras where the Douglas fir grows at high elevations its quality becomes so inferior that it can hardly be considered merchantable.

Two ownership maps presented for California.—For California two maps are presented, the first covering a portion of the western pine and sugar pine region[1] in northeastern California (for convenience printed in two parts), and the other (also in two parts) covering practically in its entirety the great redwood belt along the northern coast. The exact location of these map areas in the State can readily be seen from the key map of the Pacific coast facing page 4. The first of these regions is notable principally for the extent of the Southern Pacific Co.'s railroad-grant holdings; the second is notable not only on account of the remarkable characteristics of the redwood forest itself, but also because the ownership of this timber is concentrated to a higher degree than has been reached in any other species in the investigation area.

CONCENTRATION OF TIMBER OWNERSHIP IN NORTHEASTERN CALIFORNIA.

Section 2. Description of northeastern California map.

Part I of the northeastern California map (facing p. 100) begins at the Oregon-California State line, joining Part IV of the Oregon map. The eastern boundary is the east line of range 12 E., Mount Diablo meridian. The western boundary is the west line of range 10 W., Mount Diablo meridian, and the map extends southward from the State line to the south line of township 27 N. This is an area approximately 130 miles from east to west and 125 miles from north to south.

Part II of the map (also facing p. 100) lies immediately south of the eastern half of Part I, being bounded on the east by the east line of range 14 E., and on the west by the west line of range 2 E. It extends southward to Township 20 N. These boundaries outline an area 80 miles from east to west and 40 miles from north to south. It may be noted that the city of Sacramento is about 65 miles below the southern border of Part II.

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[1] Among the minor species are Douglas fir, white fir, and other true firs, cedar, and spruce.

The map is divided into two parts simply for convenience in printing; in the tables and in the discussion the two parts are treated as a single map.

The topographical data, such as the location of swamps, meadows, valleys, lava beds, etc., were taken from the General Land Office map of California. Lakes and railroads were mapped from the same source. The location of the recently built Western Pacific Railroad is not shown. It traverses a heavily timbered part of the map area and then runs southward to San Francisco.

County lines and national forest boundaries are indicated in the same way as on the Washington and Oregon maps. So far as there is difficulty on account of the platting in following the county and forest boundaries, this may be overcome by consulting the key map facing page 4. It will be observed that most of the central and eastern portion of Part II lies within the national forest. Through whole townships of this reserved area the platted holders have no lands. In other portions of the map, especially the western side of Part I (in the Shasta National Forest), almost every other section in the forest reserve belongs to the Southern Pacific.

On page 15 are given the amount and the percentage of privately owned land within the boundaries of the national forests of the State (June 30, 1909). The national forests partly or entirely included in the northeastern California map are the following: Trinity, Shasta, Modoc, Lassen, Plumas, Tahoe. The percentage of privately owned land in each of these six forests is shown below. Some of these are only partly on the map area so that the percentages cannot be taken as applicable strictly to the portions on the map. They are suggestive, however.

	Per cent of gross area privately owned.
Trinity	21.4
Shasta	61.8
Modoc	12.8
Lassen	23.7
Plumas	22.1
Tahoe	47.5
For the six forests	32.9

The Bureau's information as to the amount of nontimbered land on the map area is by townships, but not in such form that its location in the townships can be shown. Hence, the designation "little or no timber" could not be employed, as was done in the southwestern Washington map. In general, the important forested areas may fairly well be judged either by the presence of platted holdings or less certainly by the national forest boundaries. Some of the areas inside the national forests in the northeastern portion of Part I bear only a sparse growth of juniper, which can not be ranked as merchantable timber.

Two or three "Spanish grants"—old grants of land made before California belonged to the United States—appear along the edge of this map area, marked by a special style of boundary line. These old grants usually are outside the timber belt. The regulations under which they were made seem to point to an intention to grant agricultural or grazing lands rather than timber; and, indeed, in those days timber was far less in demand than agricultural land.

It will be noted, especially on Part I of the map, that there are great stretches of country in which no platted holdings whatever are shown. These, unless within the boundaries of the national forest, are usually open nontimbered regions, or regions whose timber is not merchantable. Thus, in the northwestern portion of Part I, the "Shasta Valley" is an extensive nontimbered region. The unplatted area northeast of Shasta Valley in townships 46 and 47 N., in ranges 1 and 2 W., called Little Shasta Valley, is nontimbered, and is almost solidly owned by the Pacific Improvement Co., which has about 35,000 acres there. The valley of the Sacramento, which runs through the middle of Part I of the map and covers the southwest corner of Part II, is in large part open nontimbered land, though along its upper course the timber comes almost to the river's edge.

SOUTHERN PACIFIC LAND GRANTS IN CALIFORNIA.[1]—In California the Southern Pacific Co. holds five Federal land grants, and under them 9,285,802 acres in this State had been patented up to June 30, 1910. The greater part of the area of one of these grants is shown on the northeastern California map. This is the grant originally made to the California & Oregon Railroad Co. (14 Stat., 239), to which the Central Pacific—in effect the Southern Pacific—is now successor. The primary limits run 20 miles on each side of the railroad, and the indemnity limits extend 10 miles farther out on each side, making a total strip 60 miles in width. These limits are shown on the map. The line of "definite location" of the railroad determining the grant between Sacramento and Tehama ran by way of Marysville, but the fast trains now run by way of Davis. Only the railroad line that determines the grant limits is named on the map.

The northern limit of another grant originally made to the Central Pacific itself appears in the southeastern corner of Part II of the map. This grant extended from Sacramento eastward through Nevada and Utah to the junction of the Central Pacific with the Union Pacific. It originally had a primary limit of 10 miles on each side of the track (12 Stat., 489), which was afterward extended to 20 miles (13 Stat., 356). No indemnity provision was made in this instance. This grant also is now under the control of the Southern Pacific. So far as it lies in the States of Nevada and Utah, it is outside the Bureau's investigation area, except that 75,320 acres of timbered land in Washoe County, Nev., just across the State line, has been carried as part of the company's California holding in all the tables in this report.

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[1] See also Part I, p. 230.

The remaining three grants in California controlled by the Southern Pacific do not traverse the map area. They are the grant to the old Western Pacific, and those to the main line of the Southern Pacific and to its branch lines.

There were no Federal land grants in California for the construction of military wagon roads, such as were made in Oregon.

Section 3. Concentration of timber ownership in area of northeastern California map.

On the entire map area there stand 86.9 billion feet of privately owned merchantable timber, or 35 per cent of the total of such timber in the entire State of California. Only 11 separate holdings are platted, namely, the Southern Pacific Co.'s lands and 10 other holdings platted in two groups of 5 holdings each. In these 11 holdings is comprised about three-fourths of all the private timber on the map area.

The amount of land platted on the map to these 11 holders is over 3,330,000 acres, of which over 2,980,000 acres are merchantable-timber land.

Table 25 below shows the amount of privately owned timber on the area of the two parts of the northeastern California map, and the percentages owned by the Southern Pacific and by various groups of holders. The table covers only those holders having lands on the map area. The holders are grouped in the order of the size of their holdings in the State (and not of size on the map area), but the figures given represent strictly the amount they own on the map area, not the amount they own in the State. As a matter of fact, the grouping would be practically the same whether the holders were grouped according to the amount owned in the State or according to the amount owned on the northeastern California map area. In this respect the situation here is quite different from that in the Washington map area, where the holders were grouped according to size of holdings on the map area itself.

Table 25 deals only with merchantable-timber acreage and timber. Table 29 on page 97 shows the total land holdings on the map area owned by holders of 60 million feet and over. The Southern Pacific, for example, as shown by that table, has 331,200 acres of nontimbered land, which is platted on the map without distinction of its timbered land. The distinction between timberlands owned in fee and lands on which only timber rights are owned is not shown on the map, but is carried in footnotes to the table. The timber rights reported as owned on the map are negligible in amount, being less than 6,000 acres.

State and Government timber holdings are excluded from the tables and discussion, which are concerned only with privately owned timber.

TABLE 25.—TIMBER ACREAGE AND TIMBER OF PLATTED AND UNPLATTED HOLDINGS ON NORTHEASTERN CALIFORNIA MAP, BY GROUPS.

[Timber in billions of board feet. Thus, 24.5=24,500,000,000 board feet.]

Holders.	Number of holders.	Timber acreage owned on map area.	Timber owned on map area.	
			Billion feet.	Per cent of total.
Platted holders:		*Acres.*		
Southern Pacific Co	1	1,378,760	24.5	28.2
First group, 5 holders	5	1,423,588	36.7	42.2
Second group, 5 holders	5	180,553	4.2	4.9
Total, platted holders	11	2,982,901	65.4	75.3
Unplatted holders (grouped by size of holding in State):				
4 holders of 200 million feet to 500 million feet each	4	[1] 52,101	1.4	1.6
5 holders of 125 million feet to 250 million feet each	5	[2] 41,454	1.0	1.1
13 holders of 60 million feet to 125 million feet each	13	[3] 70,667	1.2	1.4
Total, unplatted holders of over 60 million feet each	22	164,222	3.6	4.1
Holders of less than 60 million feet each		933,560	17.9	20.6
Total, unplatted holders		1,097,782	21.5	24.7
SUMMARY.				
Platted holders	11	2,982,901	65.4	75.3
Unplatted holders of over 60 million feet each	22	164,222	3.6	4.1
Total, holders of over 60 million feet each	33	3,147,123	69.0	79.4
Unplatted holders of less than 60 million feet each		933,560	17.9	20.6
Total, all holders		4,080,683	86.9	100.0

[1] Including 2,840 acres timber rights.
[2] Including 240 acres timber rights.
[3] Including 2,880 acres timber rights.

From the above table it is seen that one holder, the Southern Pacific Co., owns 24.5 billion feet, or over 28 per cent, of the private timber in the region covered by this map. The first group, 5 platted holders, with 36.7 billion feet of timber, owns 42.2 per cent of the total on the map area. A large proportion of this is owned by T. B. Walker. These 5 holdings, added to that of the Southern Pacific Co., amount to 61.2 billion feet, or 70.4 per cent, of the private timber on the map area. The second group, 5 platted holders, has only one-ninth as much timber as the first group, and owns less than 5 per cent of the entire amount of private timber on the map area. The 11 platted holders together own 65.4 billion feet, or 75.3 per cent of the total. The 22 unplatted holders of over 60 million feet own only 3.6 billion feet of timber, and the unplatted holders of less than 60 million feet own in the aggregate 17.9 billion feet.

The fact that 6 holders own over 70 per cent of the private timber in this great northeastern California region is sufficiently striking, but it should also be borne in mind that the small holders who own less than 60 million feet each, as a class, are not as important a factor as their total holdings might indicate. If a common policy were adopted by these 6, they could exert a high degree of control over the lumber business in this great territory. Or if the Southern Pacific and T. B. Walker were to follow harmonious policies, these two interests alone, controlling half of the timberland of this region, would be in a position of practical dominance.

Section 4. Holding of Southern Pacific on map area. (Map symbol, solid black.)

The most striking feature of the map is the vast holding of the Southern Pacific Co. Each of the solid black squares represents one square mile of land. These squares represent only the land still owned by the company. It should be kept in mind, however, that more than 330,000 acres, or about one-fifth of the Southern Pacific land platted is not timberland. A large acreage of the original grant which has been sold is, of course, not platted to it. A general discussion of this company's holdings has already been given in Part I, in Chapter I of this Part, and also in connection with its holdings on the Oregon map.

From the Bureau's record of the present ownership of timberland in that part of the northeastern California map area which falls within the limits of the railroad grant, it appears that much timberland originally patented to the railroad company is now in the hands of speculators and lumber manufacturers. An investigation of certain areas within the grant limits where the platted holders of the crosshatch and single-diagonal groups have land, shows that out of the grand total of 411,160 acres patented to the railroad company in these specified areas, 158,080 acres are still retained by the company, 221,980 acres have been sold and are now held by members of the two groups of platted holders, 2,720 acres are held by one of the unplatted holders, and 27,900 acres, timbered or nontimbered, are held by owners not separately reported to the Bureau. The extent of land thus acquired from the Southern Pacific by members of each group of platted holders will be noted in the discussion of those groups.

The character of the Southern Pacific Co.'s holding may be briefly described. It lies altogether in alternate sections. Under the grant the alternate sections had to be taken irrespective of their values. The Southern Pacific has not relinquished lands under the forest-lieu-selection act as did the Northern Pacific, and consequently it has not been able to make selections in the even sections of the more heavily timbered parts of its grant. For these reasons its lands represent a fair average of timber conditions in the whole region which its grant traverses. They therefore average less timber per acre than the selected holdings of the lumber companies who have picked their lands in the best timber.

In general, the lands in odd-numbered sections within the limits of the grant that were disposed of by the Government prior to the date of the railroad's claim, were lands suited to agriculture or grazing rather than timbered lands. Again, the lands sold by the company itself in the earlier years of its management of the grant were also mostly agricultural in character, its sales of timberland being mostly of later date. In Shasta Valley, and in the Sacramento Valley near Redding and Red Bluff, are large open areas in which most of the odd-numbered sections were originally patented to the railroad company, but were sold in accordance with what appears to have been the earlier policy of disposing of the lands for actual settlement or possibly for grazing purposes.

The fact has already been noted[1] that in the Shasta National Forest on Part I the Southern Pacific, in township after township within the reserve, holds half the land. This, of course, is because the grant to the railroad company antedated by many years the establishment of forest reserves. This fact assured to the company the odd-numbered sections within the primary or 20-mile limits of the grant. Moreover, most of the indemnity selections of this grant were made prior to the day of the national forests.

SOUTHERN PACIFIC'S HOLDINGS ON THIS MAP AND ON OREGON MAP.—If the two parts of the northeastern California map are placed below the four parts of the Oregon map arranged in order, and the solid black mile-squares are noted, one gets a fair impression of the enormous extent of the Southern Pacific's power over the timber supply of the great fir, sugar-pine, and western-pine regions of Oregon and California. Its holdings extend practically from Portland to Sacramento. In the area of the six parts of these two maps this one company holds 21.1 per cent of all the privately owned timber. Its strength as an owner of timber is augmented by its substantial monopoly of transportation in this entire territory, a formidable combination, especially considering how important a factor freight rates are in the cost of lumber delivered at markets.

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[1] Page 84.

Section 5. Holdings of first group—five platted holders—on map area. (Map symbol, heavy crosshatch.)

The 5 members of the first group of holders platted on the northeastern California map own on the area of that map 1,423,588 acres of merchantable-timber land carrying 36.7 billion feet of timber. This is 42.2 per cent of the total private timber on the map area. The members of this group are T. B. Walker; Wheeler interests (see Part I, p. 104); T. D. and E. S. Collins interests; McCloud River Lumber Co.; and Diamond Match Co. Of these the first mentioned is by far the most important. Though the Wheeler interests have very great holdings in the Pacific-Northwest, the amount owned by them in northeastern California is small as compared with the Walker holding.

HOLDING OF T. B. WALKER.—T. B. Walker has assembled his timberlands rapidly. His holding in California includes a purchase from the Sierra Lumber Co. of some 60,000 acres, constituting a very early selection of timber that was regarded as one of the finest bodies of sugar pine and western pine in the United States. As will be shown in detail later his holding was rapidly enlarged by purchases of large amounts of land originally part of the California & Oregon Railroad Co. grant, and of land originally granted by the Government to the State of California, and by use of forest-lieu scrip from the Atlantic & Pacific land grant in Arizona and New Mexico; and it was further enlarged by assembling land taken up by individuals under the timber and stone act.

A rough investigation shows that approximately 39,640 acres of the present Walker holding consist of land originally patented under the California & Oregon Railroad Co. grant, and 127,925 acres, of land originally granted to or selected by the State of California. His holding has also been enlarged by purchase of land scrip: approximately 37,260 acres of forest-lieu scrip of the Santa Fe Pacific Railway (successor to the Atlantic & Pacific); 19,900 acres of forest-lieu scrip of the Aztec Land & Cattle Co. (assignee of Atlantic & Pacific); and 6,680 acres of land originally on the Land Office records in the name of C. W. Clarke. In addition, he has 57,600 acres of public lands selected in his own name and approved by the General Land Office, besides some 9,200 acres of selections not yet approved, making a total, in the particular area under consideration, of 66,800 acres standing in his name on the Land Office records. These are probably lands selected in lieu of other lands relinquished by him in the forest reserves.

With other smaller amounts, the figures given above account for 298,685 acres of land obtained directly or indirectly in large blocks from original grantees. Adding the lands purchased from the Sierra Lumber Co. (not duplicated in the figures just given) makes a total of about 360,000 acres from the sources indicated. This reckoning, however, accounts for less than half of the present Walker holding, which reaches a total of over 750,000 acres of sugar-pine and western-pine timberland. The following statement by H. H. Schwartz, formerly chief of field service of the General Land Office, quoted in the Report of the National Conservation Commission, no doubt refers to this particular holding:

> I recall a specific instance in the Susanville and Redding districts, California, where a single investor in the course of probably three years acquired approximately 700,000 acres of heavily timbered lands, a large amount of which was secured under the timber and stone act.[1]

T. B. Walker is the largest individual (noncorporate) timber owner in the country. His holding is fifth in amount of timber in the investigation area. It gives him a very large degree of control over the lumber supply of northeastern California in the region east of the Southern Pacific (California & Oregon) grant, and the future development of this territory is to a considerable extent in his hands. Though the stand of timber in the sugar-pine and western-pine territory, where his holding lies, is not so dense as the stand of Douglas fir in western Oregon and western Washington, the value per thousand feet is in general higher.

Holding of Wheeler interests.—Next in importance in the first group on this map are the Wheeler interests, who also have extensive timberlands in the redwood belt and in western Oregon and a smaller holding in western Washington. Their holdings are platted on the ownership maps of all three of these regions as well as on the present map—on the redwood map in the first group; on the western Oregon map in the second group; and on the southwestern Washington map in the group of 33. In redwood, especially, they have a great and growing power. They also have holdings of timberland in Pennsylvania.

Other holdings in this group.—T. D. and E. S. Collins likewise are interested in timberland in Pennsylvania; and they are stockholders in the Bayside Lumber Co., a large holder in California, which is counted separately. The Collins lands in the investigation area are altogether in the Pacific-Northwest, chiefly in this map area, though they also have important holdings in western Oregon and southwestern Washington. Their lands are platted on the Oregon map in the fourth group, and on the southwestern Washington map in the group of 33. The Diamond Match Co. has timberland in the New England States in addition to its extensive tract on the area of the northeastern California map. The McCloud River Lumber Co. has no other lands than those in this region. Many of the stockholders in this concern, however, are lumbermen with interests in other large companies owning timber in various parts of the investigation area. One of them is a director of the Weyerhaeuser Timber Co.

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[1] S. Doc. No. 676, p. 389, 60th Cong., 2d sess., vol. 3, 1908–9. Quoted at more length in Part I of the Report on the Lumber Industry, p. 265.

Lands acquired from California & Oregon Railroad grant by holders in this group.—It has been stated that part of the land on the map area owned by the first group—5 platted holders—was originally patented to the California & Oregon Railroad Co. (or its successor, the Central Pacific, controlled by the Southern Pacific Co.), under the land grant. The following amounts of land owned by the different members of the group were originally part of this railroad land grant:

Table 26.—LANDS OF CALIFORNIA & OREGON RAILROAD GRANT IN AREA OF NORTHEASTERN CALIFORNIA MAP NOW OWNED BY FIRST GROUP OF PLATTED HOLDERS.

Present holders.	Granted land owned on map area.	Present holders.	Granted land owned on map area.
	Acres.		*Acres.*
Diamond Match Co.	70,760	Soper-Wheeler Co.	1,040
McCloud River Lumber Co.	62,400	Total	166,240
T. B. Walker	29,640		
T. D. and E. S. Collins interests	2,400		

This statement illustrates the fact that Federal grants of timberland, if sold by the original grantee, have usually been sold in large blocks to timber holders.

State lands acquired by holders in this group.—Reference has been made above to the State land now included in the Walker holding. The following table shows the amount of State land now owned by T. B. Walker, and also by the other holders of the first group. Distinction is made between selections approved by the Land Office and selections not yet approved. These State lands consisted in part of granted school sections, but chiefly of indemnity and other selections.

TABLE 27.—STATE LANDS[1] IN AREA OF NORTHEASTERN CALIFORNIA MAP NOW OWNED BY FIRST GROUP OF PLATTED HOLDERS.

Present holders.	Approved.	Pending.	Total.
	Acres.	*Acres.*	*Acres.*
T. B. Walker	98,445	29,480	127,925
T. D. and E. S. Collins interests	6,320	16,680	23,000
McCloud River Lumber Co.	16,840	5,660	22,500
Diamond Match Co.	17,520	3,360	20,880
Wheeler interests	3,200		3,200
Total	142,325	55,180	197,505

[1] Including some granted school lands in sections numbered 16 and 36.

OTHER LARGE ACQUISITIONS OF PUBLIC LANDS BY CERTAIN HOLDERS IN THIS GROUP.—There were other means of obtaining land in large blocks. Large quantities of Santa Fe railroad scrip and of other scrip derived from the Atlantic & Pacific Railroad Co.'s grant in New Mexico and Arizona were on the market. Both the Santa Fe Pacific Railroad Co. and the Aztec Land & Cattle Co. (in which the railroad company has a minority interest) had succeeded to lands in the original Federal grant to the Atlantic & Pacific. Forest reserves having been established in Arizona over part of the area of the railroad's land grant, the railroad company itself and the Aztec Land & Cattle Co. had forest-lieu-selection rights which they offered for sale in the form of scrip. Moreover, lands originally belonging to the land grant in the region of the Arizona forest reserves had been sold before the creation of the reserves, so that certain other owners of such lands also had lieu-selection rights.[1] Of these owners, those who made selections in that part of the northeastern California map area covered by the two groups of platted holders on the map were the Saginaw & Manistee Lumber Co. and William F. Baker, the president of that company.

Considerable amounts of land (comprising pending as well as approved selections) now held by members of the first group were originally alienated by the Government in large blocks (from 5,000 acres to 67,000 acres) to T. B. Walker, G. Howard Thompson, California & Oregon Land Co., John M. Bemis, C. W. Clarke, and Jacob H. Cook. It is probable that in most cases these parties had previously acquired other lands from various sources, and then, upon the inclusion of those lands in forest reserves, had relinquished them to the Government and selected in lieu the lands now under discussion. This would explain the alienation of lands in such large blocks to these individuals.

The following table shows the amount of approved and pending selections of the kinds described in the last two paragraphs, which are now owned by four members of this group.

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[1] See Part I, pp. 229 and 242, and above, p. 77.

TABLE 28.—APPROVED AND PENDING SELECTIONS OF CERTAIN PUBLIC LANDS (OTHER THAN CALIFORNIA & OREGON RAILROAD GRANT AND STATE GRANT) IN AREA OF NORTHEASTERN CALIFORNIA MAP NOW OWNED BY FOUR MEMBERS OF FIRST GROUP OF PLATTED HOLDERS.

Names in which selection was made.	Present holders and amount of these selections owned.				
	T. B. Walker.	Wheeler interests.	T. D. and E. S. Collins interests.	McCloud River Lumber Co.	Total on map area.
	Acres.	*Acres.*	*Acres.*	*Acres.*	*Acres.*
Santa Fe Pacific:					
Approved	36,780	11,520	....	7,680	55,[illegible]
Pending	480	....	....	120	[illegible]
Total	37,260	11,520	....	7,800	56,[illegible]
Aztec Land & Cattle Co.:					
Approved	19,460	240	....	1,900	21,[illegible]
Pending	440	....	....	....	[illegible]
Total	19,900	240	....	1,900	22,[illegible]
T. B. Walker:					
Approved	57,600	440	....	....	58,[illegible]
Pending	9,200	....	40	....	9,2[illegible]
Total	66,800	440	40	....	67,[illegible]
G. Howard Thompson:					
Approved	320	....	42,920	....	43,2[illegible]
Pending	....	....	3,840	....	3,8[illegible]
Total	320	....	46,760	....	47,0[illegible]
California & Oregon Land Co.:					
Approved	....	21,400	....	....	21,400
Pending	....	....	....	....	....
Total	....	[1] 21,400	....	....	21,400
John M. Bemis:					
Approved	....	....	9,160	....	9,16
Pending	....	....	....	....	....
Total	....	....	9,160	....	9,16
C. W. Clarke:					
Approved	4,080	....	....	200	4,2[illegible]
Pending	2,600	....	....	....	2,6[illegible]
Total	6,680	....	....	200	6,8[illegible]
Jacob H. Cook:					
Approved	....	6,120	....	....	6,120
Pending	....	....	....	....	....
Total	....	6,120	....	....	6,12
Total:					
Approved	118,240	29,720	52,080	9,780	219,82
Pending	12,720	....	3,880	120	16,72
Total	130,960	29,720	55,960	9,900	236,54

[1] Former owner, Pacific Improvement Co.

Two companies forming parts of the T. D. and E. S. Collins interests, namely, the Curtis, Collins & Holbrook Co., and the Pennsylvania Lumber Co., are involved with individual defendants in 97 suits brought by the Government for alleged fraudulent acquisition of land. These suits are now pending. It is alleged by the Government that the defendants carried on a wholesale business of procuring entrymen to make timber and stone entries. The suits cover 15,520 acres on this map area in Lassen County. Some 40 other similar instances of alleged fraudulent acquisition in which these parties are involved are said to be barred by the statute of limitations.

Section 6. Holdings of second group—five platted holders—on map area. (Map symbol, single light diagonal.)[1]

The five holders of this group own on the two parts of the northeastern California map 180,553 acres, with 4.2 billion feet of timber. This is a far less important group, both on this map area, and elsewhere, than the first group of five.

Parts of the map holdings of this group were derived from the grant to the California & Oregon Railroad Co. Three members of the group, viz, Weed Lumber Co., Northern California Lumber Co., and Merrimac Land & Lumber Co., have lands aggregating 55,740 acres which were originally part of the grant to the railroad. This represents a very considerable proportion of the holdings of the three companies. In other words, a purchase from the railroad company apparently formed the nucleus of each holding, their railroad lands amounting to over 45 per cent of the total holding of each on the map area. Railroad land now held by the Weed Lumber Co. is 30,840 acres; by the Northern California Lumber Co., 14,280 acres; and by the Merrimac Land & Lumber Co., 10,620 acres.

Besides acquiring lands which were originally part of the railroad grant, two members of the second group of five acquired considerable amounts of State land. The Weed Lumber Co. now holds 13,660 acres of land which appear on the Land Office records as selected by the State. Of this, 7,560 acres have been approved and 6,100 acres are still pending approval. The Northern California Lumber Co. also holds 3,780 acres of State land, of which 2,220 acres have been approved and 1,560 acres are pending approval. Besides this, 35,200 acres of approved selections credited on the Land Office records to William F. Baker, president of the Saginaw & Manistee Lumber Co., and 4,840 acres of approved selections credited to the

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[1] On Part I of the map the light diagonal runs from right to left, while on Part II it runs from left to right. There is no distinction, however, between the two symbols, both of which should have run in the same direction.

Saginaw & Manistee Lumber Co. itself, are reported as owned b members of this group. With 400 acres of Santa Fe scrip land no held by the Weed Lumber Co., the total secured by members of th group from railroad land grants, the State, and the other larg grantees of the Government just noted, amounts to 114,100 acre or about three-fifths of the acreage of the group on the map.

Section 7. Unplatted holdings on map area.

UNPLATTED HOLDERS OF OVER 60 MILLION FEET EACH.—There ar only 22 unplatted holders of over 60 million feet each who hav timberlands on the northeastern California map area. These holde are grouped in the table according to the size of their holdings i the State, but the order of grouping would be practically unchange if they were grouped according to the size of their holdings on th actual map area. These 22 own in this area 164,222 acres of timbe land, and 3.6 billion feet of timber, amounting to 4.1 per cent of the total private timber on the map area. They have only abou one-tenth as much timber on the map area as the first group of fiv platted holders, and only a trifle more than one-seventh of the amoun of timber held by the Southern Pacific.

UNPLATTED HOLDERS OF LESS THAN 60 MILLION FEET EACH.—About one-fifth of the private timber on the area selected for the northeastern California map is owned by holders of less than 60 million fee each. These holders are largely individuals, owning usually only a quarter section of land. Since such holdings were covered by mean of general estimates the Bureau has no record of their number. Their merchantable-timber land amounts to 933,560 acres, on which stan 17.9 billion feet of timber. This group of a very large number o individuals, who have no way of acting together, does not have a power equivalent to that which might be exercised by a single company owning the same per cent of the total timber in this region Individually, they can not get nearly as high a price for their timbe as the great companies get for theirs, and for many reasons thei collective total is less important than its size would indicate. Th timber of individual claim holders and of small companies is to som extent inferior in quality, or blocked in and controlled by the bi holders, or otherwise inaccessible.

Section 8. Additional land owned on map area by timber owners of ove 60 million feet each.

The acreage shown in Table 25 is merchantable-timber acreag Some of the holdings have additional acreage which has been reported to the Bureau. The following table repeats from Table 25 th merchantable-timber acreage and shows also the additional lands an total acreage reported as owned on the map area by the Southern Pacific and the several groups of holders of over 60 million feet each. It will be seen that except for the Southern Pacific the holdings of additional lands are unimportant.

TABLE 29.—ACREAGE OF TIMBER (INCLUDING TIMBER RIGHTS) AND ADDITIONAL LAND OWNED ON NORTHEASTERN CALIFORNIA MAP BY HOLDERS OF OVER 60 MILLION FEET EACH, BY GROUPS.

[Not all members of a group own additional land. The number of those owning such land is shown for each group, parenthetically in italics, in the additional land column.]

Holders.	Number of holders.	Merchantable-timber acreage.	Additional land reported.	Total on map area.
Platted holders:		*Acres.*	*Acres.*	*Acres.*
Southern Pacific Co.	1	1,378,760	(*1*) 331,200	1,709,960
First group, 5 holders	5	1,423,588	(*1*) 4,160	1,427,748
Second group, 5 holders	5	180,553	(*3*) 14,200	194,753
Total, platted holders	11	2,982,901	(*5*) 349,560	3,332,461
Unplatted holders (grouped by size of holding in State):				
4 holders of 250 million feet to 500 million feet each	4	[1] 52,101	(*1*) 10,000	62,101
5 holders of 125 million feet to 250 million feet each	5	[2] 41,454	....	41,454
13 holders of 60 million feet to 125 million feet each	13	[3] 70,667	(*4*) 11,047	81,714
Total, unplatted holders of over 60 million feet each	22	164,222	(*5*) 21,047	185,269
SUMMARY.				
Platted holders	11	2,982,901	(*5*) 349,560	3,332,461
Unplatted holders of over 60 million feet each	22	164,222	(*5*) 21,047	185,269
Total, holders of over 60 million feet each	33	3,147,123	(*10*) 370,607	3,517,730

[1] Including 2,840 acres timber rights.
[2] Including 240 acres timber rights.
[3] Including 2,880 acres timber rights.

The total acreage owned on the selected area by the 11 platted holders is 3,332,461 acres. For a very small fraction of this (some 4,000 acres) the Bureau did not secure the definite location. The remainder is platted with the symbols of the Southern Pacific and the two groups of large holdings.

The total acreage of the 22 unplatted holders who each have timber in excess of 60 million feet, is 185,269 acres. Adding this to the 3,332,461 acres owned by the 11 platted holders makes 3,517,730 acres, the total land holdings of 33 owners on this map area.

Section 9. Total timber in Pacific-Northwest of holders platted on northeastern California map.

Up to this point the discussion of the northeastern California map has been confined to the holdings on the map area. The holdings of some of these concerns extend into other regions as well. The following tables (Tables 30 and 31) state the merchantable-timber acreage and timber owned by the 11 platted holders of the northeastern California map on that area; the holdings of the 5 who own in California outside the map area; the holdings of the 5 who own in western Oregon and western Washington; the holdings of the 3 who own in other regions of the Pacific-Northwest; and finally the holdings of all the 11 in the Pacific-Northwest as a whole. In the western Oregon and western Washington column, 2 holders of the first group of 5 platted holders and 2 of the second group of 5 are combined in order to avoid giving information by which one of two companies could determine the amount of timber owned by the other. Table 31 shows that in addition to their 65 billion feet of timber on the map area these 11 holders own more than 100 billion feet elsewhere in the Pacific-Northwest, making their grand total in this region over 165 billion feet.

Table 30 and Table 31 show the timber acreage and timber, respectively, for the same holders and groups of holders. The amount of timber for any particular group and region in Table 31 stands on the timbered acreage shown for the same group and region in Table 30. The two tables will be discussed together. The acreage is merchantable-timber acreage and includes a negligible amount of timber rights.

TABLE 30.—ACREAGE[1] OF TIMBER OWNED IN PACIFIC-NORTHWEST BY THE 11 PLATTED HOLDERS OF NORTHEASTERN CALIFORNIA MAP, BY GROUPS AND BY REGIONS.

[Only part of the 10 grouped holders own any land outside the northeastern California map area. The number of these who do own in each region is given in the table parenthetically in italics.]

Holders platted on northeastern California map.	In California.			In western Oregon[2] and western Washington.	In other regions of Pacific-Northwest.	Total in Pacific-Northwest.
	Total.	On northeastern California map area.	Outside map area.			
	Acres.	*Acres.*	*Acres.*	*Acres.*	*Acres.*	*Acres.*
Southern Pacific Co.	1,934,580	1,278,760	[3]655,820	1,907,236	....	3,841,816
First group, 5 holders	(*10*) 1,708,976	(*5*) 1,423,588	(*4*) 104,835	(*4*) 163,946	(*3*) 63,340	(*5*) 1,696,017
Second group, 5 holders		(*5*) 180,553				(*4*) 240,245
Total, 11 holders	(*11*) 3,643,556	(*11*) 2,882,901	(*5*) 760,655	(*5*) 2,071,182	(*3*) 63,340	(*11*) 5,778,078

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[1] The figures in the table include 2,540 acres reported as timber rights as follows: The first group of 5 platted holders, 1,860 acres in California outside the map area, and 680 acres in western Washington.

[2] Including the part of Klamath County, in eastern Oregon, on Part IV of the western Oregon map.

[3] Including 75,220 acres of timberland in Washoe County, Nev.

TABLE 31.—TIMBER OWNED IN PACIFIC-NORTHWEST BY THE 11 PLATTED HOLDERS OF NORTHEASTERN CALIFORNIA MAP, BY GROUPS AND BY REGIONS.

[In billions of board feet. Thus, 35.1=35,100,000,000 board feet. Only part of the 10 grouped holders own any timber outside the northeastern California map area. The number of those who do own in each region is given in the table, parenthetically in italics.]

Holders platted on northeastern California map.	In California.			In western Oregon[1] and western Washington.	In other regions of Pacific-Northwest.	Total in Pacific-Northwest.
	Total.	On northeastern California map area.	Outside map area.			
Southern Pacific Co.	35.1	24.5	[2] 10.6	70.5	....	105.6
First group, 5 holders	*(10)* 51.7	*(5)* 36.7	*(4)* 10.8	*(4)* 8.0	*(3)* 1.2	*(5)* 55.4
Second group, 5 holders		*(5)* 4.2				*(5)* 5.5
Total, 11 holders	*(11)* 86.8	*(11)* 65.4	*(5)* 21.4	*(5)* 78.5	*(3)* 1.2	*(11)* 166.5

[1] Including the part of Klamath County, in eastern Oregon, on Part IV of the western Oregon ownership map.

[2] Including less than 1 billion feet of timber in Washoe County, Nev.

The total holdings owned in the Pacific-Northwest by the 11 platted holders amount to 5,778,078 acres of merchantable-timber land and 166.5 billion feet of timber. Of this timber the Southern Pacific owns 105.6 billion and the first group of 5 platted holders owns 55.4 billion feet.

The tables show that the Southern Pacific has in California, outside the map area, 555,820 acres and 10.6 billion feet of timber. These figures include the 75,320 acres, carrying somewhat less than 1 billion feet of timber, located in Washoe County, Nev., just over the State line, but carried in all the Bureau's tables as a part of the Southern Pacific's holding in California. The company has no holding in western Washington, so that its acreage and timber shown in the western Oregon and western Washington column are located entirely in western Oregon, including that part of Klamath County which is on Part IV of the Oregon ownership map. It has no holdings in other regions of the Pacific-Northwest.

The 10 holders of the first and second groups platted on the northeastern California map have 104,835 timbered acres outside the northeastern California map area. This is owned by only 4 holders out of the 10 in the two groups. Two of these are in the first group of 5, and 2 in the second group of 5. The timber on the 104,835 acres is 10.8 billion feet, the average stand being over 100,000 feet per acre, but by far the greater part of it lies in the redwood belt, where stands of this density are not uncommon. These particular lands are platted on the redwood map, which will be discussed later.

In western Oregon and western Washington, likewise, the ho ings of members in the first two groups are combined. The total both groups in these two regions is 163,946 acres of merchanta timber land and 8 billion feet of timber. This is owned by 4 hold 2 from the first group of 5 and 2 from the second group of 5.

Section 10. Total land holdings of the 11 platted holders reported timbered portions of Pacific-Northwest.

The 11 platted holders whose timbered acreage in the Paci Northwest was stated in Table 30 as 5,778,078 acres have in the ti bered portions of that region a reported acreage of 617,773 acre additional land not counted as bearing merchantable timber. Th additional acreage is very largely owned by the Southern Pacific Co as the following table shows:

TABLE 32.—ACREAGE OF TIMBER (INCLUDING TIMBER RIGHTS) AND AD TIONAL LAND OWNED IN TIMBERED PORTIONS OF PACIFIC-NORTHW BY THE 11 PLATTED HOLDERS OF NORTHEASTERN CALIFORNIA MAP, GROUPS.

Holders platted on northeastern California map.	Merchantable-timber acreage.		Additional land reported.		Total in timbe portions of Paci Northwest.	
	Number of holders.	Acres.	Number of holders.	Acres.	Number of holders.	Acre
Southern Pacific Co.	1	3,841,816	1	[1] 551,005	1	4,3
First group, 5 holders	5	[2] 1,696,017	3	22,194	5	1,71
Second group, 5 holders	5	240,245	4	44,574	5	2
Total, 11 holders	11	5,778,078	8	617,773	11	6,3

[1] Several million acres of additional land owned by the Southern Pacific in southern California, as wel as the very large amount of land owned by it entirely outside the investigation area, are omitted from th table, and from the tables of this Report generally. The company's total acreage in the whole country i 13,570,202 acres. (See Part I, p. 223.) The total additional land here shown for the Southern Pac i therefore incomplete and all table totals which include it are also incomplete.

[2] Including 2,540 acres timber rights.

The merchantable-timber acreage shown in Table 32 has already been distributed between the various regions of the Pacific-Northwest in Table 30 (p. 98). The 617,000 acres of additional land are distributed, roughly, as follows: 427,000 acres in California and 190,000 in western Washington and western Oregon.[1] The Southern Pacific has about 379,000 acres of nontimbered land in the timbered counties of northern California, and 172,000 of such lands in western Oregon.[1] The total acreage for the 11 platted holders in the timbered portions of the Pacific-Northwest (incomplete as regards the South-

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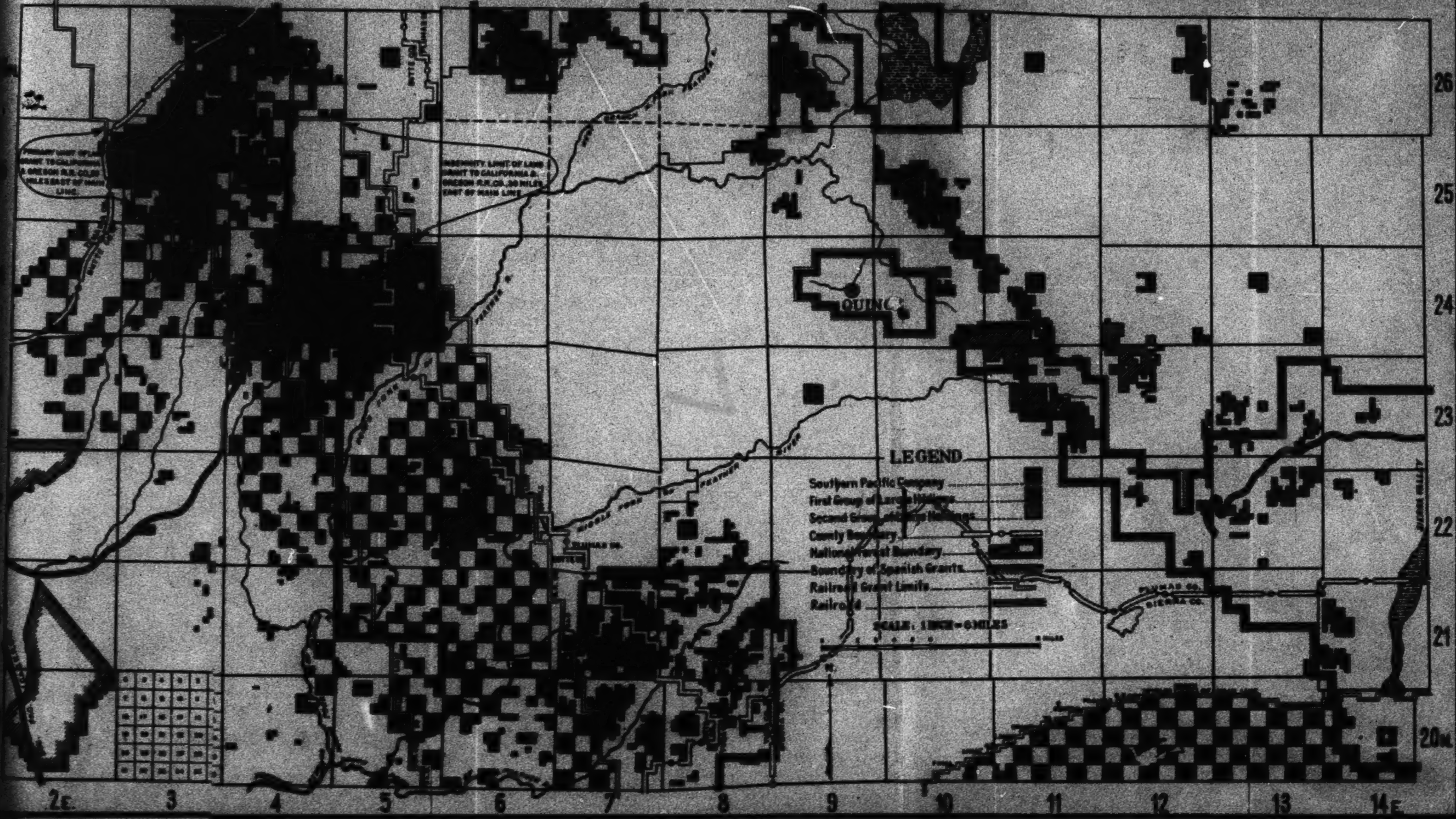
[1] Including the part of Klamath County, in eastern Oregon, on Part IV of the Orego map.

LOCATION OF LARGE TIMBER HOLDINGS IN NORTHEASTERN CALIFORNIA—PART II.


PRIMARY LIMIT OF LAND GRANT TO CALIFORNIA & OREGON R.R. CO. 20 MILES EAST OF MAIN LINE.
INDEMNITY LIMIT OF LAND GRANT TO CALIFORNIA & OREGON R.R. CO. 30 MILES EAST OF MAIN LINE
FEATHER R.
MIDDLE FORK OF FEATHER RIVER
QUINCY
PLUMAS CO.
SIERRA CO.
LEGEND
Southern Pacific Company
First Group of Large Holdings
Second Group of Large Holdings
County Boundary
National Forest Boundary
Boundary of Spanish Grants
Railroad Grant Limits
Railroad
SCALE: 1 INCH = 6 MILES
26
25
24
23
22
21
20 N.
2 E.
3
4
5
6
7
8
9
10
11
12
13
14 E.

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ern Pacific) is 6,395,851 acres. This vast acreage is equivalent to a 160-acre tract apiece for practically 40,000 persons. If to the total shown by the table the remainder of the Southern Pacific's lands in the entire country were added, the total would reach the enormous amount of 15,880,000 acres, or over three-fourths of an acre for every family in the United States in 1910.

CONCENTRATION OF TIMBER OWNERSHIP IN THE REDWOOD BELT.

Section 11. Introduction.

Redwood is a peculiar species of timber found in California, almost all of it in a limited area along the northern coast of the State. The characteristic stand of redwood is very heavy—often 100,000 to 150,000 feet per acre over large tracts and sometimes as high as 1,000,000 feet on particular acres.

There has come about an unusually high degree of concentration in redwood ownership, even higher than in the case of cypress or white pine. About 1901 an attempt was made to merge into a single concern all the important redwood owning companies, but the combination was not carried through.

Ninety-six billion feet of redwood, or 94 per cent of the country's total redwood supply, are found along the north coast of California in the counties of Del Norte, Humboldt, Mendocino, and Sonoma. The two parts of the map of the redwood belt presented herewith (facing p. 112) cover a narrow strip in the western part of the counties just named; and on this strip stands nearly all of the north-coast redwood, though just outside the mapped area there is, in these same counties, a little redwood to the east of the map and a little to the west.

The 6 per cent of the redwood supply that is found outside the four counties named above is scattered in distant parts of the State; the redwood proper being found along the coast south of San Francisco in San Mateo and Santa Cruz Counties and as far down as Monterey, and the sequoia (which is included with redwood in this report) being found on the slopes of the Sierra Nevadas, especially in Tulare and Tuolumne Counties. The amount of sequoia, which is a different species of the same genus as redwood and the lumber of which is sold by the trade under the name of redwood, is relatively limited.

The discussion in this part of the chapter covers the concentration of redwood timber ownership in the entire area of the four north-coast counties, and is not limited strictly to the area of the redwood map. But substantially all of the redwood in the four counties is on the map area, and the holders are grouped on the basis of the amount of redwood owned by each. The tables also include the timber of other species owned by the redwood holders; part of it on the map area, intermingled with their redwood or standing separately on the eastern part of the map area where the timber is mainly fir, pine, etc.; part of it outside the map area, still farther to the east. The tables also include the timber of many individuals and small concerns who presumably own no redwood, their holdings lying in the somewhat inferior fir and pine region. This method of presentation, while leaving the emphasis on the main point, the concentration of ownership of redwood, gives valuable supplemental information. A further practical reason for including all the timber of the four counties is that these counties, in so far as privately owned timber is concerned, form a separate and complete forest division of the State. The country for a long way to the south of them is nontimbered, while to the east they are shut off by the Coast Range and a wide stretch of national-forest timber, very little of which is privately owned.

Section 12. Description of map.

The map of the redwood belt is printed in two parts (facing p. 112), but the two parts are treated as a unit. Part I extends from the northern boundary of the State southward along the coast through the length of Del Norte and Humboldt Counties, a distance of, roughly, 140 miles. Throughout this distance the width of the map is only four townships, or approximately 24 miles. Part II continues Part I southward through Mendocino County to the lower tip of the redwood forest in the northern townships of Sonoma County. The southern extremity of Part II is about 70 miles northwest of San Francisco. This part is also four townships wide in its widest extent and some 100 miles in length. The exact location in the State of the two parts of the selected redwood areas may be seen on the key map facing page 4.

DETAILS OF MAPPING.—All of the townships on Part I of the redwood map are governed by the "Humboldt meridian" and "Humboldt base line." The meridian and base line are named on the map in the lower left-hand portion. On Part II, at the extreme north of the map, a fractional tier of townships (part of township 5 S.) is also governed by the Humboldt meridian. The remainder of the townships is governed by the Mount Diablo meridian. This situation is made clear on the map. Thus, for example, it will be noticed, in the extreme northeastern corner, that township 5 S., 7 E., of the Humboldt meridian adjoins township 24 N., 14 W., of the Mount Diablo meridian.[1]

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[1] The small part of Sonoma County which appears at the bottom of Part II of the map is handled as an inset. It adjoins immediately the southern boundary of Mendocino County but juts one range farther to the east. The easternmost range of Mendocino County shown on the map is range 14 W., while the inset goes one range farther eastward, to 13 W. It will be easily seen from the numbering of the ranges that range 14 W., 11 N., on the main map matches exactly with 14 W., 11 N., on the inset.

The boundaries of national forests are indicated by the same kind of line that has been used in the other maps, a heavy black line dotted on the inside. On Part II of the map there is no national forest. On Part I the main body of the national forest shown on the map is in the extreme northeastern corner. There is an area of four sections (2,560 acres) in the national forest in township 5 N., 8 E., opposite Eureka. It will be noticed that the national forest includes very little of the region in which platted holders have lands. As a matter of fact it does not extend far enough toward the coast to take in much, if any, of the redwood belt.

The topographical data, such as the location of swampy areas, are taken from the General Land Office map of the State. The locations of railroads are taken from the same source, but are sometimes obscured by the heavy platting in proximity to the railroad line. Eureka and Crescent City, the two principal ports of this coast, are shown.

The symbols used in platting the lands of timber owners are as follows: (1) Solid black, used for a first group of large holdings, which includes the lands of 6 separate holders; (2) the heavy crosshatch, used for a second group of large holdings owned by 9 separate holders; and (3) a single light diagonal used for a third group of large holdings covering the lands of 8 separate holders.[1]

Section 13. Concentration of ownership of redwood in Del Norte, Humboldt, Mendocino, and Sonoma Counties.

The following table shows the marked concentration of the ownership of redwood in the four counties of Del Norte, Humboldt, Mendocino, and Sonoma. It is different from the tables which have been given in connection with the other maps in that the percentage of concentration is based, not on the amount of total timber owned, but on the amount of redwood owned. Moreover, as indicated above, the table shows the timbered acreage and timber owned in the four counties as a whole, instead of simply that on the map area itself. The map does not cover all the timber area in the four counties; indeed, it does not cover quite all the redwood timber area. There is timber of other species lying to the east of the map area, and there is a fringe of redwood forest in places both east and west of it. The map, therefore, shows the location of certain large holdings of redwood timber in an area selected to include substantially all the redwood belt. The tables, however, include all the timber of all species in the four counties, the redwood being shown separately and the table groups being based on the amount of redwood owned.

State and Government lands are excluded.

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[1] The single light diagonal, the symbol of the third group, runs from left to right on Part I of this map, and from right to left on Part II. The difference in direction has no significance; on both parts the symbol for the third group should have been identical.

TABLE 33.—TIMBER ACREAGE AND TIMBER OF PLATTED AND UNPLATTE HOLDINGS IN HUMBOLDT, DEL NORTE, MENDOCINO, AND SONOMA COUN TIES, BY GROUPS AND BY SPECIES.

[Timber in billions of board feet. Thus, 39.5—39,500,000,000 board feet.]

Holders in the 4 counties (grouped according to amount of redwood owned).	Number of holders.	Timber acreage owned in the four counties.	Timber owned in the four counties.					Per ce of total redwoo owned by eac group.
			Redwood.	Douglas fir.	Western pine.	Other species.	Total timber.	
		Acres.	*Billion feet.*	*Billion feet.*	*Billion feet.*	*Billion feet.*	*Billion feet.*	
Platted holders:								
First group, 6 holders.....	6	[1] 384,291	39.5	2.8	.8	.5	43.6	41.1
Second group, 9 holders...	9	[2] 322,073	24.0	3.6	1.0	.3	28.9	25.
Third group, 8 holders....	8	163,910	12.3	2.9	....	.2	15.4	12.
Total, platted holders	23	870,274	75.8	9.3	1.8	1.0	87.9	78.
Unplatted holders:								
9 holders of over 500 million feet each............	9	90,962	6.2	1.6	....	.1	7.9	6.
10 holders of 250 million feet to 500 million feet each....................	10	69,169	3.4	.5	.2	.1	4.2	3.
21 holders of 125 million feet to 250 million feet each....................	21	54,444	3.7	.3	....	....	4.0	3.
12 holders of 60 million feet to 125 million feet each..	12	[3] 20,153	1.1	.1	.1	....	1.3	1.1
Total, unplatted holders of over 60 million feet of redwood..........	52	234,728	14.4	2.5	.3	.2	17.4	15.
Holders of less than 60 million feet of redwood—								
Owning over 60 million feet total timber [4]...............	7	13,720	.2	.3	....	....	.5	.
Owning less than 60 million feet total timber [5]...............	....	450,834	5.7	4.0	1.1	.3	11.1	5.
Total............................	....	464,554	5.9	4.3	1.1	.3	11.6	6.
Total, unplatted holders...............	....	699,282	20.3	6.8	1.4	.5	29.0	21.1

[1] Including 1,960 acres timber rights.

[2] Including 160 acres timber rights.

[3] Including 400 acres timber rights.

[4] In this group are 2 holders having no redwood.

[5] In this group are 14 separately reported holders, of whom 2 do not own any redwood. The 14 have 10,900 acres with 400 million feet of timber, of which 300 million are redwood, and 100 million are Douglas fir, with a trace of western pine. The remaining timber of this group, amounting to 10.7 billion feet, of which 5.4 billion feet are redwood, is in small unenumerated holdings scattered throughout the timbered region of the 4 counties. Many of these small holdings contain no redwood, being east of the redwood belt in the Douglas-fir and western-pine timber.

TABLE 22.—TIMBER ACREAGE, ETC.—Continued.

ders in the 4 counties grouped according to nount of redwood owned).	Number of holders.	Timber acreage owned in the four counties.	Timber owned in the four counties.					Per cent of total redwood owned by each group.
			Red-wood.	Doug-las fir.	West-ern pine.	Other species.	Total timber.	
SUMMARY.								
		Acres.	*Billion feet.*	*Billion feet.*	*Billion feet.*	*Billion feet.*	*Billion feet.*	
al, all holders of over 60 illion feet of redwood......	75	1,105,002	90.2	11.8	2.1	1.2	105.3	93.9
al, all holders of less than million feet of redwood...	....	464,554	5.9	4.3	1.1	.3	11.6	6.1
Total, all holders....	....	1,569,556	96.1	16.1	3.2	1.5	116.9	100.0

ction 14. Holdings of first group—six platted holders—in the four counties. (Map symbol, solid black.)

The timberland owned in Del Norte, Humboldt, Mendocino, and noma Counties by the 6 members of the first group is 384,291 acres, which stand 39.5 billion feet of redwood, 2.8 billion feet of ouglas fir, 800 million feet of western pine, and 500 million feet of her species, making a total of 43.6 billion feet for all species. edwood is by far the most important timber—90 per cent of all—in e holdings of the group. Of the total redwood in these four couns, the 6 members of this first group own 41.1 per cent.

The members of this group are: (1) Wheeler interests, principally e Lagoon Lumber Co. (see Part I, p. 104); (2) Pacific Lumber Co.;) A. B. Hammond companies (see Part I, p. 104); (4) Union Lumer, Glenn-Blair Redwood, and Mendocino Lumber companies; (5) el Norte Co.; (6) Standish-Hickey Timber Co. Of these holders e Wheeler interests and the A. B. Hammond companies have tensive areas of timber in other regions. Lands of both these olders are platted on the southwestern Washington map in the roup of 33. Lands of the Hammond companies are platted on the regon map in the first group, and lands of the Wheeler interests the second group. On the northeastern California map lands of e Wheeler interests are included in the first group of 5 platted oldings.

The wide-spreading interrelation of great timber holders whose oldings have nevertheless been counted as separate by the Bureau is lustrated by the following facts:

The Hammond interests are connected through a common director ith the Southern Pacific, as has been stated on page 105 of Part I.

The vice president of the Pacific Lumber Co. is also interested in the Rupp holding, of the second group of platted holdings. One of the directors of the Standish-Hickey Timber Co. is a director of the Union Lumber Co. and director and secretary, respectively, of two of its allied companies. A director in one of the allied concerns of the Union Lumber Co. is secretary of the Caspar Lumber Co., one of the second group of holders. Three other directors of one or the other of the allied concerns of the Union Lumber Co. are directors of the Pacific Coast Redwood Co., a member of the second group, one being president. In addition the president of one of the Union companies is vice president of the Pacific Coast Redwood Co., and still another director of one of the Union companies is treasurer of the Pacific Coast Redwood Co.

The table shows the correct acreage of timberland owned by members of the first group. There is a discrepancy, however, between the acreage shown in the table and that platted on the map. The items of this discrepancy are stated in the note on p. 111.

Section 15. Holdings of second group—nine platted holders—in the four counties.[1] (Map symbol, heavy crosshatch.)

The 9 holders whose lands are platted with the heavy crosshatch own in Del Norte, Humboldt, and Mendocino Counties 322,073 acres of merchantable-timber land, on which stand 24 billion feet of redwood, 3.6 billion feet of Douglas fir, 1 billion feet of western pine, and 300 million feet of other species, making a total of 28.9 billion feet of all kinds of timber. The redwood, therefore, constitutes about 83 per cent of their total timber. This is a smaller proportion than is found in the holdings of the first group, in which redwood amounts to 90 per cent of the total.

The 24 billion feet of redwood which these 9 holders of the second group own in the four counties under discussion amount to 25 per cent of all the redwood in those counties.

The members of this group are: (1) Hobbs, Wall & Co. and Hotchkiss Timber Co.,[2] (2) the L. E. White Lumber Co., (3) the C. A. Smith Redwood Co., (4) the Dessert Redwood Co., (5) David Ward estate, (6) the Hill-Davis Co., (7) the Caspar Lumber Co., (8) the Pacific Coast Redwood Co., and (9) J. J. Rupp et al. The interests prominent in the first of the above holders are also prominent in the Port Blakely Mill Co., platted on the southwestern Washington map in the group of 33; the lands of the C. A. Smith interests are platted in the first group on the Oregon map; and those of the Rupp interests in the fourth group on the Oregon map.

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[1] Members of this group own no timber in Sonoma County.

[2] This holding also includes the Star Lumber Co.

Section 16. Holdings of third group—eight platted holders—in the four counties.[1] (Map symbol, single light diagonal.[2])

The 8 members of the third platted group own in Del Norte, Humboldt, and Mendocino Counties 163,910 acres of timberland and 12.3 billion feet of redwood, in addition to 2.9 billion feet of Douglas fir and 200 million feet of other species, a total of 15.4 billion feet. Of this total, their redwood constitutes about 80 per cent, and is 12.8 per cent of all the redwood in the four counties.

Among the important holders of the third group are the Sage Land & Improvement Co., Thomas Blair, and the Southern Pacific Co. (owning here in the name of the Albion Lumber Co.). The Southern Pacific has no railroad grant extending into the redwood territory, but it recently secured control of the Albion Lumber Co. through purchase of its stock.[3]

Not all the lands of the third group of platted holders in these four counties lie on the area mapped. There are over 15,000 acres owned by them just off the map area. Besides, some 12,000 acres owned by them could not be shown because the Bureau secured no plats.

Section 17. Holdings of unplatted holders in the four counties.

The holders whose lands have not been platted on the redwood map are grouped into two main divisions: First, holders of over 60 million feet of redwood each, and second, holders of less than 60 million feet of redwood each. Of the first class, there are 52, divided in turn into four groups. The holders in the second class—that is, holders of less than 60 million feet of redwood each—are subdivided into (1) those who have more than 60 million feet of total timber and (2) those who have less than 60 million feet of total timber. There are 7 holders of the first subdivision, each having more than 60 million feet of total timber but less than 60 million feet of redwood, 2 of them, indeed, having no redwood at all. The second subdivision includes 14 separately reported holders of less than 60 million feet of total timber, but the bulk of the timber in this subdivision belongs to the small unenumerated holders, and was covered by general estimates. The total owned by the different groups whose lands are not platted on the map is 699,282 acres of timberland, carrying 20.3 billion feet of redwood, 6.8 billion feet of Douglas fir, 1.4 billion feet of western pine, and half a billion feet of other species, making a total of all species of 29 billion feet. The redwood owned by the unplatted holders, 20.3 billion feet, amounts to 21.1 per cent of the total redwood in the four counties under consideration.

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[1] Members of this group own no timber in Sonoma County.

[2] On Part I of the map this diagonal runs from left to right, while on Part II it runs from right to left. The direction of this symbol should have been the same on both parts of the map.

[3] In Part I (p. 97) it was stated that the Southern Pacific and the Atchison, Topeka & Santa Fe controlled this company. Subsequent information shows that it is owned by the Southern Pacific alone.

It will be recalled that in the case of the platted holders the first group had redwood amounting to 90 per cent of their total timber; the second group had redwood amounting to about 83 per cent; and the third group to about 80 per cent. In the case of the first four unplatted groups (52 holders), the proportion of redwood is also high, ranging from nearly 80 per cent in one group to over 90 in another. But it is in the group of unplatted holders each having less than 60 million feet of redwood that the lowest proportion of redwood is found. In this group it is only 51 per cent (5.9 billion feet of redwood out of 11.6 billion feet of all species). This low proportion is due to the fact that much of the timber in this group is entirely outside the redwood belt in small unenumerated holdings in the fir and pine region east of the redwood territory. It may be noted in this connection that the average stand for this group is only about 25,000 feet per acre, a very much lower average than that of the platted holders, or the other groups of unplatted holders. The explanation is the fact that half the timber of this group is not redwood but of other species whose characteristic stand is much lighter than redwood.

Among the members of the group of 9 unplatted holders of over 500 million feet each is one company which has close association with the T. D. and E. S. Collins interests, but which has not been combined with those interests by the Bureau. The holdings of T. D. and E. S. Collins interests proper in the redwood belt rank them in the group of 10 unplatted holders of from 250 million feet to 500 million feet each. Another holder in the group of 9 unplatted holders of over 500 million feet of redwood also has extensive timberland in the South. One of the individuals controlling this holding is an associate of Mr. Weyerhaeuser in the Virginia & Rainy Lake Lumber Co. in Minnesota.

Section 18. Comparison of groups, and summary of concentration.

By comparing the acreage and total timber owned by the 6 platted holders of the first group with the acreage and timber owned by the 9 platted holders of the second group or by the 8 of the third group, it may be seen that the first group has a higher average stand per acre than the other two groups. Their 43.6 billion feet standing on 384,291 timbered acres mean an average of 113,000 feet per acre, as against an average of about 90,000 feet per acre for the second group, and 94,000 feet for the third. Yet it must not be assumed that over the entire acreage covered by the black symbol the timber is denser than anywhere in the acreage covered by the other symbols of the map. A tract of over 90,000 acres included in this group has an average stand less than that of several holdings which are included in the second and third groups. The highest stand reported for a given holding is on a comparatively small acreage owned by a member of the third group of platted holders. In general, however, it may be said that the members of the first group have not only the greatest amount of redwood, but also the heaviest stands per acre.

If the percentages in Table 33 were based on the total timber of all species instead of on the amount of redwood alone, it would be found that the first group has 37.3 per cent of the total timber, the second group 24.7 per cent, and the third 13.2 per cent, as against redwood holdings of 41.1 per cent, 25 per cent, and 12.8 per cent, respectively. There is a somewhat greater concentration of redwood than of timber of all other species. Holders having each less than 60 million feet of redwood own only 6.1 per cent of the total redwood, though they have 9.9 per cent of the total timber. The 23 platted holders have 78.9 per cent of the total redwood and 75.2 per cent of the total timber.

As a final summary of the degree of concentration in redwood the following statements are made, segregating the more important owners in each of the three groups of platted holders so as to show the percentages owned by smaller groups than appear in Table 33 on page 104, and indicating cumulative percentages:

Out of the group of 6 platted holders, 3 own 24.8 billion feet of redwood, or one-fourth of that in the great redwood belt. The 6, as shown by the table, have over 40 per cent. The 4 largest redwood owners in the second group of platted holders have 11.6 billion feet of that timber. This, with the holdings of the first group, makes 51.1 billion feet of redwood—over half the total—owned by 10 platted holders. The 15 holders of the first and second platted groups have nearly two-thirds of the total redwood in the four counties; and these, with 3 selected from the third platted group, make 18 holders having 68.9 per cent.

In no other species of timber than redwood do the holders of 60 million feet and over own so high a percentage of the total amount of the species. While 93 per cent of all the redwood in the country, including sequoia, is in the hands of holders of over 60 million feet each, yet even in the cypress of the South only 72 per cent is owned by such holders, and in the white pine and Norway pine of the Lake States, only 80 per cent.

Section 19. Additional land owned in the four counties by holders of over 60 million feet of redwood each.

The figures already given for acreage in Table 33 covered only merchantable-timber acreage. Some of the holders in the four great redwood counties, however, have additional lands not counted as bearing merchantable timber. The following table repeats from Table 33 the acreage of timberland for each group of the holders of over 60 million feet of redwood each, and states the additional land and total acreage by groups. The purpose of these figures is to call attention to the concentration of ownership of land as distinct from timber. For, after the timber has been cut, the land remains, and may prove valuable for agriculture or rich in minerals.

If the total acreage in this table for the three platted groups is compared with the amount of land platted on the map to them, some small discrepancies appear. The table gives the true acreage so far as reported to the Bureau, while, for various reasons, not all is shown on the map. These discrepancies and the reasons therefor are explained in the note following the table.

TABLE 34.—ACREAGE OF TIMBER (INCLUDING TIMBER RIGHTS) AND ADDITIONAL LAND OWNED IN DEL NORTE, HUMBOLDT, MENDOCINO, AND SONOMA COUNTIES BY HOLDERS OF OVER 60 MILLION FEET OF REDWOOD EACH, BY GROUPS.

[Not all members of a group own additional land. The number of those owning such land is shown for each group, parenthetically in italics, in the additional land column.]

Holders in the four counties (grouped according to amount of redwood owned).	Number of holders.	Merchantable-timber acreage.	Additional land reported.	Total
Platted holders:		*Acres.*	*Acres.*	*Acres.*
First group, 6 holders	6	[1] 384,291	(*3*) 68,437	452,
Second group, 9 holders	9	[2] 322,073	(*1*) 15,000	337,
Third group, 8 holders	8	163,910	(*2*) 7,682	171,
Total, platted holders	23	870,274	(*6*) 91,119	961,
Unplatted holders:				
9 holders of over 500 million feet each	9	90,962	(*2*) 12,000	102,
10 holders of from 250 million feet to 500 million feet each	10	69,169	(*4*) 15,540	84,7
21 holders of from 125 million feet to 250 million feet each	21	54,444	(*6*) 7,800	62,
12 holders of from 60 million feet to 125 million feet each	12	[3] 20,153	(*1*) 4,532	24,6
Total, unplatted holders owning over 60 million feet of redwood each	52	234,728	(*13*) 39,872	274,
SUMMARY.				
Platted holders	23	870,274	(*6*) 91,119	961,
Unplatted holders of over 60 million feet of redwood each	52	234,728	(*13*) 39,872	274,
Total, holders owning over 60 million feet of redwood each	75	1,105,002	(*19*) 130,991	1,235,

[1] Including 1,960 acres reported as timber rights. [2] Including 160 acres reported as timber rights.
[3] Including 480 acres reported as timber rights.

NOTE.

First group—6 platted holders.—The platting of lands to this group on the map is at variance with the acreage shown for the group in the above table as follows: Members of this group have off the area of the map and within the timber belt of the four counties approximately 2,000 acres. Besides, plats were not obtained by the Bureau for about 20,000 acres of land belonging to one of the members of this group. This amount is in the acreage of the table, but, of course, not on the map. On the other hand, in land platted with the symbol of this group, members of other groups own undivided interests equivalent to 24,210 acres in all, reckoning a half interest in 2 acres as equivalent to 1 acre, the equivalent of 19,630 acres being held by members of the second group of platted holders, the equivalent of approximately 3,480 acres by a member of the third group of platted holders, and the equivalent of 1,100 acres by an unknown holder.

Second group—9 platted holders.—About 200 acres owned by members of this group are outside the limit of the map; for 1,500 acres no plats were furnished; and 19,630 acres are owned by members of this group in the form of partial interests in lands platted to members of the first group, as explained in the preceding paragraph.

Third group—8 platted holders.—Over 15,000 acres are owned by members of this group just off the map area; for 12,000 acres or more no plats were furnished; and 3,480 acres (constituting a partial interest in a holding the balance of which is owned by a member of the first group) are platted with the symbol of the first group, as explained above.

The table shows that the total land owned in the four counties by the 75 holders of over 60 million feet of redwood is 1,235,993 acres, of which 130,991 acres are classed as additional, not bearing merchantable timber. This additional land amounts to about 11 per cent of the total. As indicated in connection with other map discussions, however, the complete acreage of additional land was perhaps not in all cases reported to the Bureau. (See p. 17.)

Section 20. Land frauds in redwood belt.

That 75 holders own nearly a million and a quarter acres of land indicates an unusually high degree of concentration, when it is considered that it has been attained without the presence in this region of any Federal land grant, such as tended to strengthen the concentration in northeastern California, western Oregon, and southwestern Washington. This seems to have been done chiefly under the Federal land laws despite their initial restriction of 160 acres to the person. A passage from the report of the Public Lands Commission of February 21, 1880, indicates how the spirit of the law was violated:

> The commission visited the redwood-producing portion of the State of California and saw little huts or kennels built of "shakes" that were totally unfit for human habitation, and always had been, which were the sole improvements made under the homestead and preemption laws, and by means of which large areas of redwood forests, possessing great value, had been taken under pretense of settlement and cultivation which were

> the purest fictions, never having any real existence in fact, bu which "due proof" had been made under the laws.
>
> In some sections of timber-bearing country where there sho be, according to the "proofs" made, large settlements of ind trious agriculturists engaged in tilling the soil, a primeval s ness reigns supreme, the solitude heightened and intensified the grandeur of high mountain peaks, where farms should according to the proofs made, the mythical agriculturist hav departed after making his "final proof" by perjury, which is an unfavorable commentary upon the operation of pu beneficent laws.[1]

A much more definite statement covering extensive frauds by wh a large timber firm attempted to acquire 100,000 acres of choice r wood lands in the Humboldt district is found in the Report of Commissioner of the General Land Office for 1886.[2]

> This case shows that the ramifications of the fraud exten into the General Land Office at Washington, and also sh some of the difficulties encountered by special agents when t discoveries implicate wealthy and influential persons. In 1 a special agent of this office reported that this company had p cured a large number of fraudulent entries, amounting, acco ing to his estimates, to not less than 100,000 acres. The age report disclosed the scheme of fraud in all its details, and supported by specific evidence in many cases. He also infor this office that he had been offered a bribe of $5,000 to supp the facts and abandon the investigation, which he declin This agent was subsequently suspended from duty and aft wards dismissed from the service at the instance, as underst in this office, of great influence brought against him from Pacific coast and in Washington.
>
> * * * * * * *
>
> A new agent was appointed, who reached his field of ope tions about the first of January last and entered upon the d charge of his duties. The agents of the company soon discove his presence and business and attempted to defeat the investi tion. Some of the witnesses were spirited out of the countr others were threatened and intimidated; spies were employed watch and follow the agent and report the names of all perso who conversed with or called upon him; and on one occasion t persons who were about to enter the agent's room at his ho for the purpose of conferring with him in reference to the tries were knocked down and dragged away. Notwithstandi this the agent proceeded with his investigation and succeeded obtaining a large amount of evidence. He found 90 of t entrymen and procured their affidavits as to the frauds and t manner in which they were induced to make the applicatio and affidavits. This testimony embraced 47 of the patent cases. Several employes of the company gave sworn stateme

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[1] Report of Public Land Commission, Ex. Doc. No. 46, 46th Cong., 2d sess., Feb. 21, 18 Quoted in The Public Domain, Misc. Doc. No. 45, p. 543, pt. 4, 47th Cong., 2d sess.

[2] Ex. Doc. No. 1, pt. 5, pp. 93–95, 49th Cong., 2d sess., vol. 9.

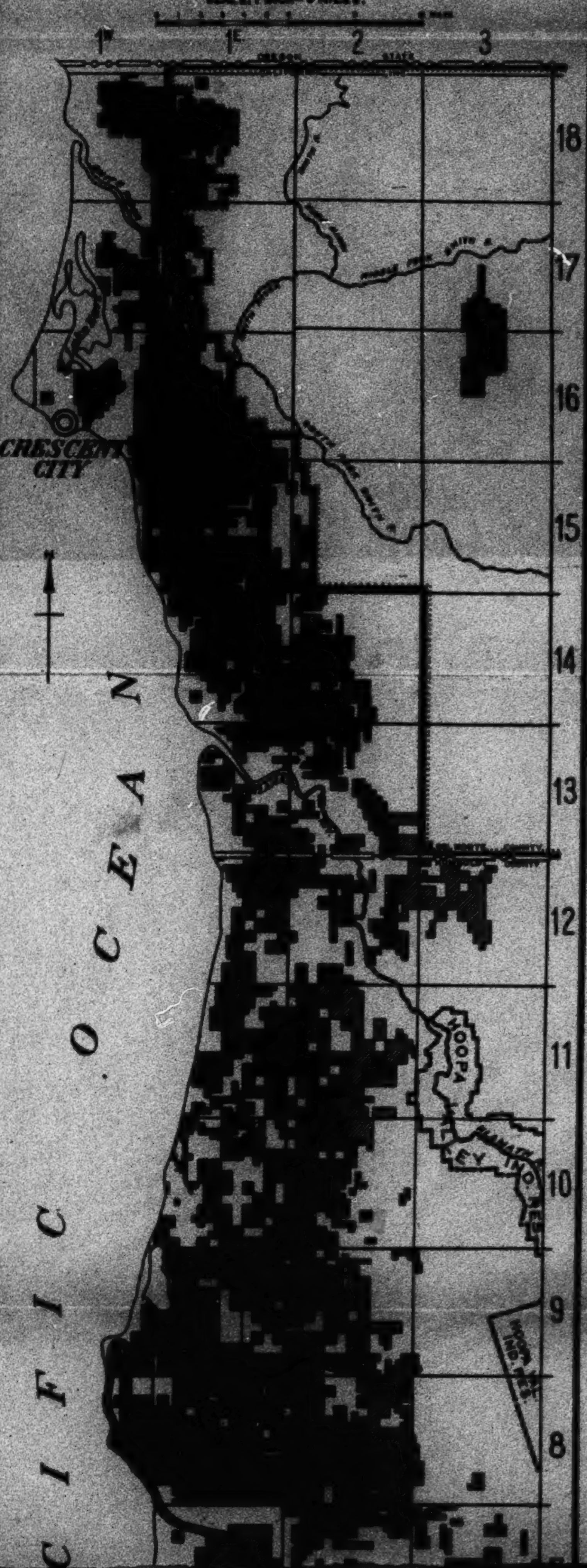
LOCATION OF LARGE TIMBER HOLDINGS IN THE REDWOOD BELT IN CALIFORNIA.

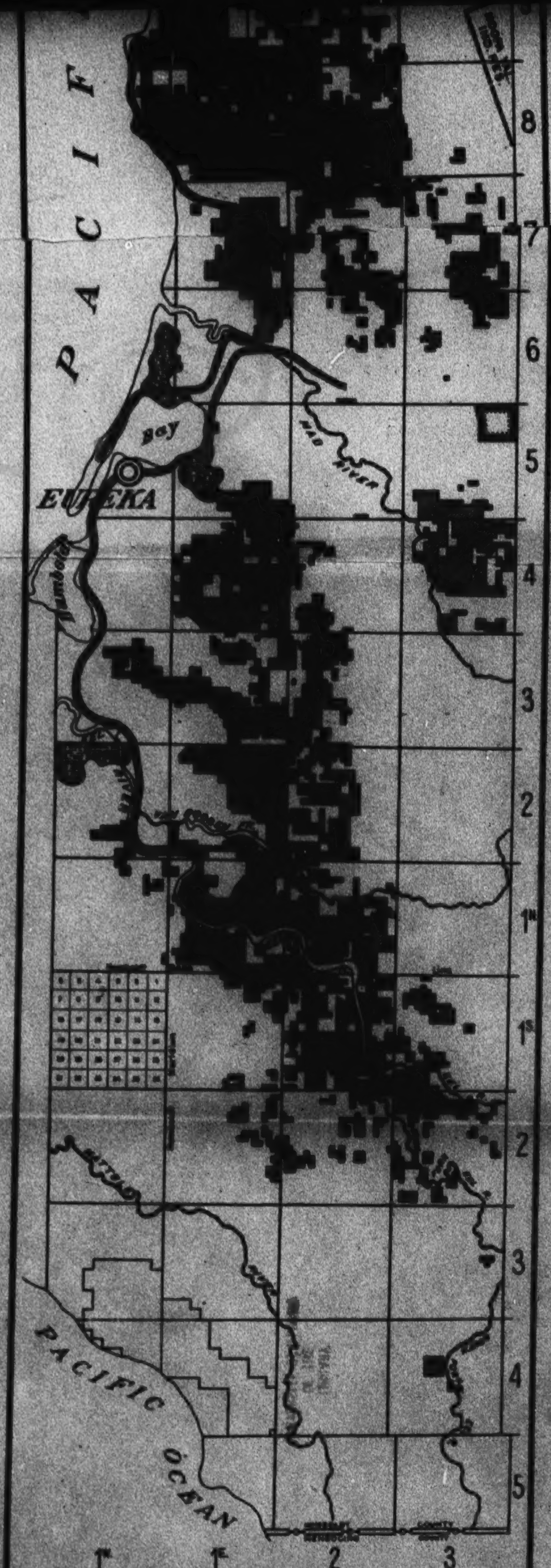
PART I - DEL NORTE AND HUMBOLDT COUNTIES.

LEGEND

First Group of large Holdings	■
Second Group of large Holdings	■
Third Group of large Holdings	■
County Boundary	—○—○—
National Forest Boundary	▭
Railroads	—

SCALE, 1 INCH = 6 MILES.


1W
1E
2
3
OREGON STATE
18
17
16
15
14
13
12
11
10
9
8
CRESCENT CITY
HOOPA VALLEY IND. RES.
HOOPA VAL. IND. RES.
CIFIC OCEAN


HOOPA VAL. IND. RES.
PACIF
Bay
EUREKA
Humboldt
MAD RIVER
PACIFIC OCEAN
8
7
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1N
1E
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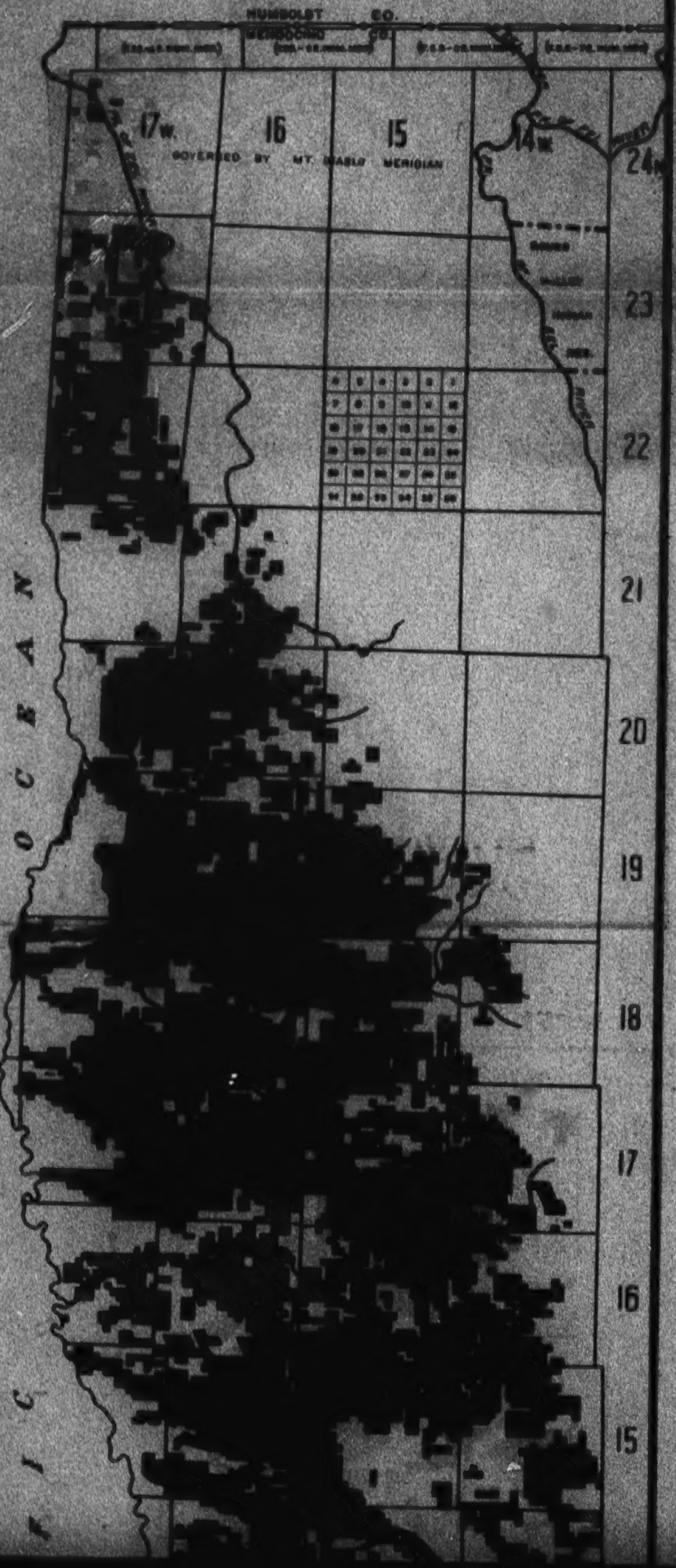
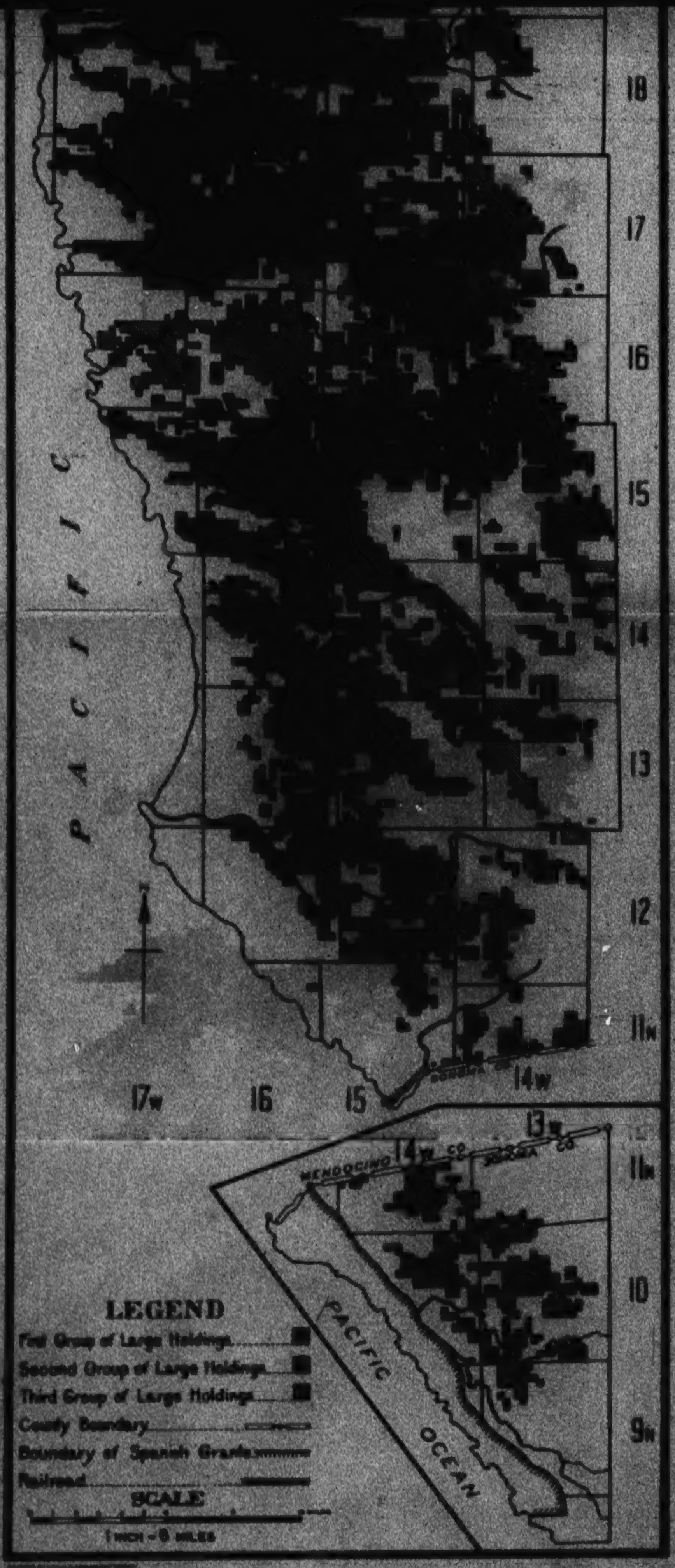
3

Report of the Commissioner of Corporations on the Lumber Industry. Part I.

LOCATION OF LARGE TIMBER HOLDINGS IN THE REDWOOD BELT IN CALIFORNIA.

PART II – MENDOCINO AND SONOMA COUNTIES.


HUMBOLDT CO.
MENDOCINO CO.
17W.
16
15
14W.
GOVERNED BY MT. DIABLO MERIDIAN
24N.
23
22
21
20
19
18
17
16
15
EEL RIVER
OCEAN
FIC


18
17
16
15
14
13
12
11W
PACIFIC
SONOMA CO
14W
17W
16
15
13W
11W
14W CO
MENDOCINO
SONOMA CO
10
9W
PACIFIC OCEAN
LEGEND
First Group of Large Holdings
Second Group of Large Holdings
Third Group of Large Holdings
County Boundary
Boundary of Spanish Grants
Railroad
SCALE
1 INCH = 6 MILES

Report of the Commissioner of Corporations on the Lumber Industry. Part I.

of their connection with the illegal transactions and of facts within their knowledge. Affidavits were also made by citizens of Eureka and other reliable persons, among which are the affidavits of sixteen business men, who were asked to make entry applications in the interest of the company and offered $50 each, but who declined to do so. It appears that the persons composing this company went to work systematically and on an extensive scale, and to enable them to carry through their scheme they took into their association several wealthy men, who furnished the necessary means. Expert surveyors and men well informed in regard to the character and value of timber were employed to locate and survey the lands. Others were then hired to go upon the streets of Eureka and elsewhere and find persons who could be induced to sign applications for land and transfer their interests to the company, a consideration of $50 being paid for each tract of 160 acres so secured. The company's agent received $5 for each applicant obtained. No effort seems to have been made to keep the matter secret, and all classes of people were approached by agents and principals of the company and asked to sign applications. Sailors were caught while in port and hurried into a saloon or to a certain notary public's office and induced to sign applications and convey the lands to a member of the firm. Farmers were stopped on their way to their homes, and merchants were called from their counters and persuaded to allow their names to be used to obtain title to the lands. The company's agent presented the applications to the register and receiver in blocks of as many as 25 at one time; paid the fees; had the proper notices published; hired men to make the proofs; paid for the lands and received the duplicate receipts; yet the register and receiver and some of the special agents appear to have been the only persons in the vicinity who were ignorant of the frauds.

Section 21. Total holdings in Pacific-Northwest of holders platted on redwood map.

Many of the holders platted on the redwood map own no timberlands in the Pacific-Northwest outside the redwood counties. Since only one or two holders would appear in such a table for a given group and a given region, it is impossible to give a table of total holdings in the Pacific-Northwest by regions, as was done in connection with other maps, without revealing the amount of timber owned by certain holders. It seems best, therefore, simply to state the total amount of timberland and timber owned by the 23 platted holders of the redwood map in the Pacific-Northwest as a whole. Their timbered acreage in the Pacific-Northwest is 5,503,012 acres, and the timber thereon is 237.9 billion feet. These figures, of course, include the holdings of the Southern Pacific Co., which totals in the Pacific-Northwest 3,841,816 acres of merchantable-timber land and 105.6 billion feet of timber.

As regards total land holdings, it is sufficient to state that the platted holders own in the Pacific-Northwest 5,503,012 acres o merchantable-timber land, and 676,686 acres of additional land, making a total of 6,179,698 acres. Of this amount, 3,841,816 acr of merchantable timber, and 551,005[1] acres of additional land, a total of 4,392,821[1] acres, are held by the Southern Pacific.

NOTE.

State lands.—The State of California retains the ownership of only ab 8,700 acres of land in Humboldt, Del Norte, and Mendocino Counties. All o this is to the east of the redwood belt. Besides, there are over 26,500 acr of land within the forest reserve, lying in sections 16 and 36, which the Sta has offered to the Federal Government as "base" for other lands which it ha selected in lieu. These lieu selections not having been approved by the Secr tary of the Interior, the lands offered as base can not as yet be said to hav been relinquished by the State. The Bureau has no record of lands which th State may own in Sonoma County.

The foregoing statement makes it clear that the State of California ow very little if any redwood timber in the four counties under discussion. Th Bureau has made no inquiry in the redwood region to determine whether a large amount of State land scrip was used by timber owners in securing lar holdings, as was done in northeastern California.

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[1] See note 1 of Table 32, p. 100 for several million acres of nontimbered land owned b the Southern Pacific but excluded from this figure.

CHAPTER V.

CONCENTRATION OF TIMBER OWNERSHIP IN NORTH CENTRAL IDAHO.

Section 1. Amount and general distribution of timber in Idaho.

The total amount of privately owned standing timber in Idaho is 10.4 billion feet. While this is much less than that in any of the States of the Pacific-Northwest thus far discussed, a considerable portion of the State is nevertheless heavily timbered. There are two principal timber belts, the white pine and the western or yellow pine. Each of these species of pine is practically unmixed with the other, but each is accompanied by a considerable proportion of other timber, such as fir, larch, spruce, etc. The white-pine belt extends all the way across the northern end of the State and southward along the eastern border to a point well below the middle of the State. The western-pine belt lies west and south of the white-pine section, broadening out as it extends southward to the neighborhood of Boise. From Boise southward there is little merchantable timber other than that included in national forests. And in the eastern part of the State below the Panhandle there is likewise little privately owned timber of merchantable size. The chief counties for timber in Idaho are Bonner, Kootenai, Shoshone, Latah, Nez Perce, Idaho, Washington, and Boise. Of these, Idaho County, though timbered, is inaccessible, mostly unsurveyed, and contains little privately owned timber.

The selected map area for Idaho covers probably the heaviest portion of the white-pine belt. It also takes in a part of the western-pine district. Before passing to the detailed discussion of the timber in this selected area, mention should be made of the general location and character of the important privately owned timber regions of the State outside this map. One of the most important of these outside areas lies in the extreme northern portion of the State. This embraces the greater part of Bonner County and the northern portions of Shoshone and Kootenai Counties. In the northern part of Kootenai County there is a stretch of prairie land (the Spokane Valley) running to the southwest and broadening from a narrow valley at the north to many miles in width as it approaches the State boundary on the west. To the north of this prairie section in Kootenai and in southern Bonner County there is a good growth of western pine, and to the south of it a region of mixed species.

There is also a large area of land timbered mainly with white pine and Douglas fir in the national forests to the east of the map area. In certain townships in this section considerable selections of land have been made by means of Northern Pacific lieu scrip, but a great part of it is still in the hands of the Government. Just to the southwest of the map area is the former Nez Perce Indian Reservation, a considerable portion of which is timbered with western pine. Lumber companies have just begun to acquire holdings in this region. The only other regions of Idaho where there are important private holdings of standing timber are in Washington and Boise Counties in the southwestern part of the State.

Section 2. General description of map area.

The Idaho ownership map (facing p. 130) covers what is known as the St. Joe country, the St. Mary's country, and the Clearwater country—these regions being named after the principal streams—and the Potlatch country. The map extends, roughly, from the neighborhood of Coeur d'Alene Lake and of Wallace on the north to the latitude of Lewiston on the south, and covers an irregular area approximately 85 by 65 miles in extreme. The exact position of this area in the State is shown by the key drawn on the lower part of the map itself. The northern boundary is the north line of township 47 N. The city of Wallace is just north of the northern boundary of the map in range 4 E., and the southern tip of Coeur d'Alene Lake is shown in the northwestern part, where the greater part of Coeur d'Alene Indian Reservation also appears.

This reservation has only recently been opened for settlement, filings having commenced in May, 1910. Certain townships in the west, central, and south central parts are nontimbered, but a large area of the reservation bears a good growth of western pine. None of this timber is counted as privately owned in this discussion or in the report as a whole.

On the southwest the map extends to the open prairie region about the city of Moscow, stopping at the south line of township 40 N. On the east it follows the white-pine timber farther south, to the southern boundary of Nez Perce County in township 34 N. A rough approximation of the division between the white-pine and the western-pine belts on the map area might be made by following the east boundary of the Coeur d'Alene Reservation to its southeast corner, thence running a line in a southeasterly direction to the Boise meridian at about township 40 N., thence southward about two townships, thence eastward in tier 37 N. through range 4 E., and southward to the map boundary.

The map covers all of the well-timbered region of the county of Latah and part of the timber in the counties of Kootenai, Shoshone and Nez Perce. On the east the map is bounded by the east line of range 6 E. Beyond this to the Idaho-Montana State line all the country is embraced within national forests, the western boundaries of which are shown on the map. Some lands in these national forests, as said, have been selected by means of Northern Pacific lieu scrip, but the territory as a whole is unsurveyed Government land. In the west central part of the map is shown the boundary of the old Palouse National Forest, which is now a part of the Coeur d'Alene National Forest.

It will be observed that within the boundaries of this old Palouse National Forest a considerable proportion of the land is owned by platted holders. The only national forests touching on the map area are the Coeur d'Alene (including the former Palouse National Forest) and the Clearwater. The main bodies of these forests lie to the east of this map where little land has passed into private ownership. The gross area of the Coeur d'Alene National Forest is 1,843,844 acres, of which 18.9 per cent had passed into private ownership before the reserve was created; and that of the Clearwater is 2,687,860 acres, of which 6.9 per cent had gone into private hands before the reserve was created.

NONTIMBERED AND BURNED AREAS ON MAP.—There is considerable nontimbered or burned territory on the map area. The descriptions in this paragraph of the burned areas do not cover areas burned in the Idaho forest fires of the summer of 1910, which were subsequent to the Bureau's field work. The situation prior to 1910, however, may be stated roughly. As regards Nez Perce County, the Bureau's information is not such as to enable it to locate exactly the nontimbered or burned-over portions of the various townships. For the other parts of the map the Bureau has detailed information, but the nontimbered or burned lands are scattered among the platted holdings in such a way that it is impracticable to represent such areas graphically.

It should be pointed out that the blank space on the map in the northern part of 38 N., 6 E., and in the southern part of 39 N., 6 E., is not an untimbered area, but instead is good timberland, owned almost solidly by one of the more important unplatted holders. Similarly, the blank space in the northern part of 46 N., 2 E., is well timbered, and is almost solidly occupied by some of the larger unplatted holdings. In the blank space in 47 N., 2 E., however, there are practically no timber holdings. There is a burn covering a considerable part of 42 N., 2 E., and there is a tract more or less burned or cut over in 42 and 43 N., 1 E.

The nontimbered area in the west, central, and south central parts of the Coeur d'Alene Indian Reservation has been already noted. Outside the reservation, along the southeast boundary, is a rather limited region in which the timber is of little value. In the extreme western ranges of township 40 N. there is open country in the agricultural region about Moscow. Considerable logging has been done in the timber tracts easily accessible to the St. Joe, the St. Mary's, and the Palouse Rivers, and there are cut-over lands in many parts of the map.

Railroad grant limits.—The limits of the Northern Pacific Railway Co.'s grant appear in the central part of the map. The main line of the Northern Pacific, by which the grant limits were determined, runs through Sand Point, well to the north of the map area, so that the three limit lines on the south side of the railroad are the only ones which appear here. Between Missoula, Mont., and Spokane, Wash., the main line of the railroad makes a long sweep to the northwest and then to the southwest, a fact which explains the pyramidal form of the grant limits on the map. In Idaho and Montana the railway company has not only a primary, or 40-mile limit, and a first indemnity limit, 50 miles from the main line, but also a second indemnity limit of 10 miles additional (16 Stat., 378). This second indemnity limit is therefore 60 miles from the main line.

The branch lines of the railway shown on the map have no relation to the position of the grant limits. In this connection, it should be noted that the location of the new Chicago, Milwaukee & Puget Sound Railway (owned by the Chicago, Milwaukee & St. Paul Railway Co.) is not indicated on the map. It crosses the Bitterroot Mountains by St. Regis Pass, and follows down the St. Joe, tapping the great white-pine belt in the region where the Milwaukee Land Co., also a subsidiary of the Chicago, Milwaukee & St. Paul, has large holdings.

Map symbols.—The lands still owned by the Northern Pacific are platted on the map (symbol, heavy crosshatch), including unpatented or unsurveyed lands claimed by the railway under its grant. The map also shows a group of 3 holders platted in solid black, and a second group of 3 holders platted in a light diagonal. The State lands are indicated by the letter S. The Bureau's report on State lands in Latah and Kootenai Counties is not authoritative. It is possible that there are other lands in Latah County owned by the State on which it has not sold timber rights, and part of the lands platted to the State in Kootenai County may have been sold. In all, there are platted with the symbol S on the Idaho map area about 155,000 acres of State lands. The Bureau has no complete estimate of the amount of timber on these lands.

Section 3. Concentration of timber ownership in area of Idaho map.

In the area of the Idaho map there are 29.8 billion feet of private timber, or approximately three-fifths of the private timber in the

State. Only 7 private holdings of timber are platted. The following table shows the acreages of timberland and the amounts of merchantable timber owned by these 7 holders on the map area, and also by the unplatted holders.

The acreage in this table is merchantable-timber acreage. A later paragraph (p. 125) will show a small amount of "additional" lands not carrying merchantable timber. A considerable amount of timbered acreage on this map area is held in the form of "timber rights" without ownership of the land in fee. Footnotes to the table show the amount of such acreage held by the various groups.

State timber and timber owned by the Federal Government are not included in the table, and, as above noted, the timber in the recently opened Coeur d'Alene Indian Reservation is not included.

TABLE 35.—TIMBER ACREAGE AND TIMBER OF PLATTED AND UNPLATTED HOLDINGS ON IDAHO MAP, BY GROUPS.

[Timber in billions of board feet. Thus, 1.6=1,600,000,000 board feet.]

Holders.	Number of holders.	Timber acreage owned on map area.	Timber owned on map area.	
			Billion feet.	Per cent of total.
Platted holders:		*Acres.*		
Northern Pacific Ry. Co.	1	108,403	1.6	5.4
First group, 3 holders	3	[1] 508,778	16.1	54.0
Second group, 3 holders	3	[2] 118,406	3.4	11.4
Total, platted holders	7	735,587	21.1	70.8
Unplatted holders (grouped by size of holding in State):				
4 holders of over 250 million feet each	4	[3] 38,225	1.3	4.4
3 holders of 125 million feet to 250 million feet each [4]	3	[5] 25,553	.6	2.0
3 holders of 60 million feet to 125 million feet each	3	8,239	.2	.7
Total, unplatted holders of over 60 million feet each	10	72,017	2.1	7.1
Holders of less than 60 million feet each		405,864	6.6	22.1
Total, unplatted holders		477,881	8.7	29.2
SUMMARY.				
Platted holders	7	735,587	21.1	70.8
Unplatted holders of over 60 million feet each	10	72,017	2.1	7.1
Total, holders of over 60 million feet each	17	807,604	23.2	77.9
Unplatted holders of less than 60 million feet each		405,864	6.6	22.1
Total, all holders		1,213,468	29.8	100.0

[1] Including 93,212 acres reported as timber rights.

[2] Including 13,362 acres reported as timber rights.

[3] Including 10,600 acres reported as timber rights.

[4] Including Northern Pacific lands under contract to unidentified holders, amounting to 4,375 acres and 60 million feet.

[5] Including 1,969 acres reported as timber rights.

Section 4. Holding of Northern Pacific Railway Co. on map area. (Map symbol, heavy crosshatch.)

The holding of the Northern Pacific Railway Co. on the Idaho map area amounts to 108,403 acres of timberland, carrying 1.6 billion board feet of timber. This is 5.4 per cent of the total private timber on the map area. There are nontimbered lands of this company platted on the map which bring the total of all lands (as distinct from timberlands only) up to 119,692 acres. It will be observed that a considerable part of the Northern Pacific land lies in the northeastern part of the map, more or less away from the holdings of other companies. A very considerable acreage of lands platted to the other two groups of holdings was originally acquired from the Northern Pacific (see p. 126), and part of the lands so acquired is still under contract, the railway company not having secured the patent from the Government. On the map and in the table, of course, these contract lands are not credited to the Northern Pacific, but to the contract holders. In the case of contracts covering 4,375 acres on the map area, the Bureau does not know the names of the contract holders. This tract of 4,375 acres with the timber on it has, therefore, been included in the table in the group of unplatted holders of 125 million to 250 million feet, without making any addition to the number of holders in that group. It is not platted to the Northern Pacific nor credited to it in the table.

A considerable proportion of the Northern Pacific's land in that part of Kootenai County shown on the map is poorly timbered, most of the well-timbered lands of the railroad grant in this part of the map having been disposed of to lumber companies. The railway's lands in the northeastern part of the map and in Nez Perce County are more heavily timbered. The Nez Perce County lands are selections made by the Northern Pacific with forest-lieu scrip, and have not been contracted to others.

MUCH OF NORTHERN PACIFIC'S LAND SUBJECT TO RECLASSIFICATION.—The status of the Northern Pacific's claim to considerable areas of land is now uncertain. This is due to the fact that the grant excluded mineral lands, and the determination of what lands are mineral is still unsettled.

In the early administration of the grant there was no adequate system for determining the mineral or nonmineral character of the lands. In 1895 Congress passed an act providing that commissioners appointed by the President should classify the odd-numbered sections in the limits of the grant where it traversed the chief mineral regions of Montana and Idaho. There has been much dissatisfaction with the classifications under this act, and informal charges of fraud, to the effect that odd-numbered sections desired by the railroad for timber or other value were classified by the commissioners as nonmineral—which gave them to the railroad—and odd-numbered sections not desired by the railroad were classified as mineral—which meant that the Government kept them, and the railroad made indemnity selections of valuable land elsewhere within the indemnity strip. Lands classified as mineral by the commissioners have in many cases subsequently been taken up by homesteaders and timber and stone claimants under acts which also exclude mineral lands, their affidavits that the lands were actually nonmineral having been accepted by the General Land Office regardless of the classification by the commissioners. That is, the classification by the commissioners is regarded under the law as conclusive as to the railroad company but as of no effect as to individual claimants.

In 1901 the work on the mineral classification was discontinued on account of the exhaustion of the appropriation and on account of local protests alleging that the classifications were merely perfunctory and in many cases were erroneous. Approximately 268,000 acres remained still unclassified. In 1910 Congress appropriated $30,000 for the completion of the work. The railroad company itself has asked for the reexamination of certain lands which had been classified as mineral and has agreed that in return other lands previously classified as nonmineral should also be reexamined. The new field examinations have been made by the Geological Survey; but about 258,000 acres, the classification of which was formerly made but never approved, are being reexamined by special agents of the General Land Office.

Section 5. Other platted and unplatted holdings on map area.

FIRST GROUP, THREE PLATTED HOLDERS. (MAP SYMBOL, SOLID BLACK.)—The holdings platted in this group are: (1) Those of the Potlatch Lumber Co.; (2) those of the Clearwater Timber Co.; and (3) those of the Milwaukee Land Co., which is owned by the Chicago, Milwaukee & St. Paul Railway Co. Though members of the Weyerhaeuser family are among the controlling forces in the Potlatch Lumber Co. and the Clearwater Timber Co., the Bureau has counted these holdings as separate from each other as well as from the Weyerhaeuser Timber Co.

The combined holdings of these three companies on the area of the map amount to 508,778 acres of timberland and 16.1 billion feet of timber, which is 54 per cent of the total private timber on the map area. This indicates a very marked degree of concentration, especially in view of the close connection between two of the holders. Of the merchantable-timber acreage of these three holders, 416,566 acres, are owned in fee; on the remaining 92,212 acres timber rights are owned, but not the fee.

In one tract of 18,165 acres owned in fee by the State, 3 companies have an undivided interest in the timber only, as follows: A one-half interest is owned by a member of the first platted group, a one-fourth interest by another member of the same group, and the remaining one-fourth interest by a member of the second platted group. On the map this tract has all been platted with the solid black symbol of the first group, but in the table the acreage and the timber are divided between the two groups.[1]

Of the Potlatch Lumber Co.'s holding over 80,000 acres were acquired from the State, almost all of it in the form of timber rights. The interests controlling the Potlatch Lumber Co. also control another company, the Payette Lumber & Manufacturing Co., which owns 130,000 acres in Idaho far to the south of the map area. Again, the interests controlling the Clearwater Timber Co. also control the Humbird Lumber Co., and both companies have practically the same officers. The Humbird Lumber Co. is the dominant owner of timber in that part of Idaho to the north of the map area, owning about 184,000 acres in northern Kootenai County and in Bonner County. A large proportion of this land was obtained from the Northern Pacific grant. It is admitted that there is a tacit understanding with the Northern Pacific by which the Humbird Lumber Co. will eventually acquire all it may desire of the Northern Pacific's remaining timberlands in Bonner County, amounting to 150,000 acres. The Clearwater Timber Co. obtained over 100,000 acres of its timber holdings from the Northern Pacific, part being already deeded to it by the railroad, and part being still under contract, to be deeded when patented by the Government. It has on the map area alone some 83,000 acres obtained thus from the Northern Pacific. Of this amount, 11,320 acres are unpatented land.

The Chicago, Milwaukee & St. Paul Railway Co. has purchased its western timber holdings within the past few years in connection with the recent extension of its railroad from South Dakota to Puget Sound. What may be regarded as the nucleus of its Idaho holdings was formed by the purchase of a large block of excellent timberland which had been assembled some time before by another company. Lands were also assembled for it by the Monarch Timber Co. and were afterwards transferred to the Milwaukee Land Co., in whose name the Idaho timber holdings of the railroad now stand. The Milwaukee Land Co. also has some lands that were originally part of the Northern Pacific grant, about 4,000 acres having been obtained in this way. It also holds some 8,000 acres of timber rights acquired from the State.

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[1] These 3 owners appear to have since sold the tract to the Blackwell Lumber Co., a member of the second group of platted holders.

Second group, three platted holders. (Map symbol, single light diagonal.)—The members of this group are (1) the Edward Rutledge Timber Co., (2) the Blackwell Lumber Co., and (3) the Coeur d'Alene Lumber Co. The three holders of this group have on the area of the map 118,406 acres of timberland and 3.4 billion feet of timber, or 11.4 per cent of the total timber on the map. Most of their lands lie in the central and northern portions of the map area.

Members of the Weyerhaeuser family are prominent in the Edward Rutledge Timber Co. and also in the Bonner's Ferry Lumber Co., which owns timber off the map area in Bonner County, Idaho, in Montana, and across the Canadian border. Members of this family also control an important timber company having 90,000 acres in Wisconsin. It is to be noted that the companies which the Weyerhaeuser family are known to control are not combined, in the Bureau's tabulations, with the Weyerhaeuser Timber Co., nor with the Potlatch, Payette, Humbird, or Clearwater concerns.[1]

Of the Edward Rutledge Timber Co.'s holding on the map area a very considerable part (21,160 acres) was obtained from the Northern Pacific Railway Co. Part of this land is still under contract of sale, title not having passed to the timber company because patent has not yet issued from the Government. The company is one of those referred to on page 122 as owning a part interest with two other companies in the timber on certain State lands. Its proportion of these timber rights would amount to something over 4,500 acres.[2]

The Blackwell Lumber Co. has also become an important holder in Kootenai and Shoshone Counties. It purchased the lands of the B. R. Lewis Lumber Co., and took over the selected timber holdings of Charles R. Smith and the Menasha Woodenware Co. in these counties, of which about 8,000 acres had been purchased as timber rights from the State.[3]. The Menasha Woodenware Co. is still an important owner in Bonner County, Idaho, and in southwestern Oregon, and is closely connected with the Blackwell Lumber Co. The president of the Blackwell Lumber Co. is also president of the Panhandle Lumber Co., which owns 100,000 acres of timber in northern Kootenai and southern Bonner Counties, Idaho, and in the adjoining portions of Spokane and Stevens Counties, Wash.—much of it acquired from the Northern Pacific grant. The Bureau has counted the Blackwell and the Panhandle companies as separate holders.

The Coeur d'Alene Lumber Co.'s holding was largely formed by purchase of Northen Pacific granted lands. It owns on the map area about 85,000 acres that were thus obtained. The interests controlling the company also control companies owning some timber in Montana.

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[1] For the timber holdings of the concerns in which Frederick Weyerhaeuser and his close associates are interested, see p. 6, footnote.

[2] See, however, note on p. 122, to the effect that the timber rights on the entire tract appear to have been subsequently sold to the Blackwell Lumber Co.

[3] This is a different tract from that referred to in the note on p. 122 as recently bought by the Blackwell Lumber Co.

Unplatted holders.—Table 36 shows only 10 unplatted holders having more than 60 million feet each. These are arranged in three groups according to the amount of timber they own in the State.

The last group of unplatted holders—those owning less than 60 million feet each—is made up largely of individual claim owners, with a few who have perhaps got together several quarter sections of land. The number of persons in this group can not be stated, since the Bureau's information as to holdings of this character is in the shape of general estimates. This group totals 405,864 acres and 6.6 billion feet of timber, which is between one-fifth and one-fourth of the total privately owned on the map area. It will be noted that these small holders have a very much lower average stand than the holders of over 60 million feet, having only 16,000 feet per acre as against the larger holders' average of 29,000 per acre.

The strength of these unplatted holders, especially those owning less than 60 million feet each, is by no means proportionate to the amount of timber they own as a group. As already explained, the timber of small holders, especially where their holdings are widely scattered and surrounded by those of larger interests, is to a considerable extent at the mercy of such large holders. This is especially true where, as in the case of the Idaho map area, the degree of concentration of ownership by large interests is exceptionally high. In other words, even the high percentages already given for the groups of platted holders do not really state the full strength of these owners.

Summary of concentration.—There are altogether only 17 holders of 60 million feet and over on the entire map area. Of these, 7 whose lands are platted own no less than 70.8 per cent of the total timber, 10 whose lands are unplatted own 7.1 per cent, and the 17 taken together own 77.9 per cent—over three-fourths—of all the privately owned timber in the region covered by the map, a region which contains three-fifths of the privately owned timber in the State of Idaho. While the area covered by this map is very much smaller than that covered by several of the other maps discussed in this part, the degree of concentration here shown is exceptionally high. Moreover, out of the 7 platted holders 3 are closely connected, respectively, with 3 other important timber companies elsewhere in the State: The Potlatch, with the Payette; the Clearwater, with the Humbird; the Edward Rutledge, with the Bonners' Ferry. The Weyerhaeuser family is interested in all these 6 companies.

Certainly the Idaho white-pine belt is so largely in the hands of these 7 holders, or so largely under their control, that an outsider would find it difficult to assemble at the present time a holding of as much as 250 million feet of white pine against their opposition. This is especially significant in view of the fact that 3 of these 7 holders are interrelated by minority interests in such a way as to make probable a common policy.

In western pine, which is less valuable and has not been so eagerly sought, the concentration is less marked. In fact, the greater part of the timber owned by holders of less than 60 million feet each in Idaho is in the western pine territory.

ADDITIONAL LAND OWNED ON MAP AREA BY HOLDERS OF OVER 60 MILLION FEET EACH.—Very little additional acreage—that is, land not counted as bearing merchantable timber—is owned on the map area by holders of 60 million feet and over. The amount of such additional acreage is only 13,117 acres, of which 11,289 are owned by the Northern Pacific. However, no complete record of the additional acreage of the Northern Pacific on the map area was secured by the Bureau.

Section 6. Land obtained from State of Idaho and from Northern Pacific by large holders.

A rough accounting has been made by the Bureau of all the lands in the Idaho map area which were granted to or selected by the State and of all those granted to or selected by the Northern Pacific, to see how far they are now owned by large timber owners. The lands retained by the State and by the Northern Pacific are also indicated. The tables follow:

TABLE [illegible].—OWNERSHIP IN 1908 OF GRANT TO STATE OF IDAHO IN AREA OF IDAHO MAP.

Present holders.	Granted land owned or leased on map area.								
	Approved.			Pending.			Total.		
	Fee.	Timber rights.	Total.	Fee.	Timber rights.	Total.	Fee.	Timber rights.	Total.
First group of platted holders:	*Acres.*	*Acres.*	*Acres.*	*Acres.*	*Acres.*	*Acres.*	*Acres.*	*Acres.*	*Acres.*
Potlatch Lumber Co.	3,000	[1]77,923	80,923	160	960	1,120	3,160	78,883	82,043
Clearwater Timber Co.	80	....	80	....	....	....	80	....	80
Milwaukee Land Co.	....	[2]8,021	8,021	....	....	....	....	8,021	8,021
Total, first group	3,080	85,944	89,024	160	960	1,120	3,240	86,904	90,144
Second group of platted holders:									
Blackwell Lumber Co.	440	[3]8,000	8,440	....	....	....	440	8,000	8,440
Edward Rutledge Timber Co.	....	[4]4,541	4,541	....	....	....	....	4,541	4,541
Total, second group	440	12,541	12,981	....	....	....	440	12,541	12,981

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[1] Includes 9,083 acres representing a one-half interest in the tract of 18,165 acres referred to on p. 122 and note.

[2] Includes 4,541 acres representing a one-quarter interest in the tract of 18,165 acres referred to on p. 122 and note.

[3] Does not include the 18,165 acres referred to in the note on p. 122.

[4] Consists of a one-quarter interest in the tract of 18,165 acres referred to on p. 122 and note.

TABLE 36.—OWNERSHIP IN 1908 OF GRANT TO STATE OF IDAHO IN AREA OF IDAHO MAP—Continued.

Present holders.	Granted land owned or leased on map area.								
	Approved.			Pending.			Total.		
	Fee.	Timber rights.	Total.	Fee.	Timber rights.	Total.	Fee.	Timber rights.	Total.
	Acres.	*Acres.*	*Acres.*	*Acres.*	*Acres.*	*Acres.*	*Acres.*	*Acres.*	*Acres.*
3 unplatted holders	480	5,640	6,120	40	......	40	520	5,640	6,1
Total accounted for in private ownership	4,000	104,125	108,125	200	900	1,100	4,200	105,025	109,2
Retained by State of Idaho	153,345	....	153,345	......	......	......	153,345	....	153,34
Total accounted for	157,345	104,125	261,470	200	900	1,100	157,545	105,025	262,6
Unaccounted for	....	....	85,090	......	......	5,920	....	....	91,0
Total	....	....	346,560	......	......	7,000	....	....	353,6

TABLE 37.—OWNERSHIP IN 1908 OF NORTHERN PACIFIC GRANT IN AREA OF IDAHO MAP.

Present holders.	Granted land owned on map area.		
	Patented.	Unpatented.	Total.
	Acres.	*Acres.*	*Acres.*
Northern Pacific Ry. Co.	70,098	49,600	119,6
First group of platted holders:			
Potlatch Lumber Co.	[1]1,000	....	1,00
Clearwater Timber Co.	71,600	11,320	82,92
Milwaukee Land Co.	3,980	....	3,98
Total, first group	76,580	11,320	87,90
Second group of platted holders:			
Blackwell Lumber Co.	880	120	1,00
Edward Rutledge Timber Co.	15,500	5,600	21,10
Coeur d'Alene Lumber Co.	34,550	280	34,83
Total, second group	50,930	6,000	56,9
Total, platted holders	197,602	66,920	264,5
3 unplatted holders	1,000	320	1,32
Total accounted for	198,602	67,240	265,9
Unaccounted for	23,128	25,730	48,8
Total	221,730	92,970	314,700

[1] Includes 400 acres reported as timber rights.

The first table shows that the State originally held in this map area a total of 353,587 acres, of which 346,507 acres consist of approved State selections. The Bureau has accounted for the ownership of 261,417 acres out of the total. The State itself retains 153,345 acres of the land accounted for, and 108,072 acres are held by large timber owners. With reference to the 7,080 acres of pending State selections, 1,160 acres are reported by large timber holders; but of the remaining 5,920 acres the Bureau has no information as to whether the beneficial interest in these selections still belongs to the State; for the State may have contracted to sell the timber on them. It may be added that since the date of the map (1908) the State has selected about 65,000 acres that are still pending. These do not appear on the map, nor are they included in the table. The State may or may not have contracted to sell the timber on them.

It will be observed that the approved State lands held by large timber owners are practically all held in the form of timber rights, the State retaining the fee.

The second table shows that out of a total of about 315,000 acres selected by the Northern Pacific in the map area, about 120,000 acres are still retained by the company and about 145,000 acres are now held by other large timber owners. The chief of these are the Coeur d'Alene Lumber Co., which secured granted lands; and the Clearwater Timber Co. and the Edward Rutledge Timber Co., which secured mostly the Mount Rainier lieu-selection lands.

Out of the 83,000 acres of Northern Pacific lands held on the map area by the Clearwater concern, over 55,000 acres were secured by Mount Rainier lieu selection. The above tabular statement of the ownership of Northern Pacific lands in the Idaho map area should be compared with the tabular statement in Part I (p. 239), which shows the present ownership of the Northern Pacific selections made in Idaho and in other States in lieu of lands relinquished in the Mount Rainier National Park and the former Pacific Forest Reserve. The former table covers the whole of Idaho with respect to a special class of Northern Pacific lands. This table covers all classes of Northern Pacific lands in the limited area of the map.

Since 1908, the date of the map, the Northern Pacific has selected lands in the map area amounting to about 19,000 acres. It may still retain the ownership of these, or it may have contracted to sell its rights in them. They are not included on the map nor in the table.

Section 7. Total holdings in State of Idaho and in Pacific-Northwest of holders platted on Idaho map.

TIMBERED ACREAGE AND TIMBER.—The figures stated here for timbered acreage and timber on the map area are repeated from Table 35. The timber owned on the map area by the 7 platted holders stands in the name of the Northern Pacific, Potlatch, Clearwater, Milwauk Rutledge, Blackwell, and Coeur d'Alene companies mentioned o pages 121 and 123. These companies have the record title. But mo of them, as there stated, are respectively controlled by interests whic also control other concerns owning timber elsewhere in the State o in the Pacific-Northwest; and all timber owned by companies th controlled by a single interest is counted as a single holding. I the following table, therefore, the amounts given for the vario groups under the columns "State of Idaho" and "Pacific-North west" include the entire amount owned in those regions, whethe owned by the particular map-area companies or by the other com panies controlled by the same interests.

TABLE 38.—TIMBER ACREAGE AND TIMBER OWNED IN IDAHO AND IN PACIFIC NORTHWEST BY THE 7 PLATTED HOLDERS OF IDAHO MAP, BY GROUPS.

Holders platted on Idaho map.	Number of holders.	On Idaho map area.		In State of Idaho.		In Pacific-Northwest.	
		Merchantable-timber acreage.	Timber.	Merchantable-timber acreage.	Timber.	Merchantable-timber acreage.	Timbe
		Acres.	*Billion feet.*	*Acres.*	*Billion feet.*	*Acres.*	*Billi feet.*
Northern Pacific Ry. Co.	1	108,403	1.6	324,130	4.5	2,979,023	36.
First group, 3 holders	3	[1] 508,778	16.1	[2] 803,217	21.7	[3] 1,110,032	38.
Second group, 3 holders	3	[4] 118,406	3.4	[5] 151,457	3.8	[6] 171,725	4.
Total	7	735,587	21.1	1,278,804	30.0	4,260,780	78.

[1] Including 92,212 acres timber rights.
[2] Including 126,968 acres timber rights.
[3] Including 140,378 acres timber rights.
[4] Including 13,862 acres timber rights.
[5] Including 16,102 acres timber rights.
[6] Including 18,702 acres timber rights.

The table just given indicates that though the 7 platted holders of the Idaho map have only 21.1 billion feet of timber on this map area, they have in the State as a whole 30 billion feet. In the Pacific-Northwest the amount owned by the 7 is 4,260,780 acres of timberland, including 159,080 acres of timber rights, and 78.8 billion feet of merchantable timber. Of this timber it will be seen that the Northern Pacific has over 36 billion feet, and the first group of 3 platted holders 38.5 billion feet; that is, out of the 78.8 billion feet, 74.7 billion feet are owned by 4 of the 7 holders. While the second group of 3 platted holders have on the map area over one-fifth as much timber as the first group of 3, yet in the Pacific-Northwest as a whole they have less than one-ninth of the amount owned by the first group of 3. Again, while the second group of 3 have twice as much timber on the map area as the Northern Pacific has, yet in the Pacific-Northwest as a whole they have only a trifle over one-ninth as much.

The Northern Pacific Railway Co. is also a platted holder on the southwestern Washington map; and out of the first group of 3 platted holders one is a platted holder on the Washington map, and one on the Oregon map.[1]

Additional acreage.—A statement of the additional lands and the total acreage, as well as the merchantable-timber acreage, of these 7 platted holders in Idaho and in the Pacific-Northwest is given in the following table. A division of the timbered acreage between timber rights and fee lands is shown.

The purpose of this table is to indicate the total land holdings of the 7 in the Pacific-Northwest. It is incomplete, however, in that it excludes between 6 and 7 million acres owned by the Northern Pacific in nontimbered portions of the States of Oregon, Washington, Idaho, and Montana. In the case of other companies also the Bureau's figures for additional land may be incomplete. (See p. 17.) Even at that, the table shows an immense acreage of land in the hands of these 7 holders. Quite apart from the concentration of timber, there is here a great concentration in the ownership of land, the fundamental natural resource, which may be rich in other wealth than timber.

Table 39.—ACREAGE OF TIMBER (INCLUDING TIMBER RIGHTS) AND ADDITIONAL LAND OWNED IN TIMBERED PORTIONS [illegible]HO AND OF PACIFIC-NORTHWEST BY THE 7 PLATTED HOLDERS OF IDAHO MAP, BY GROUPS.

Holders platted on Idaho map.	Number of holders.	In State of Idaho.				
		Merchantable-timber acreage.			Additional land reported.	Total.
		Fee.	Timber rights.	Total.		
		Acres.	*Acres.*	*Acres.*	*Acres.*	*Acres.*
Northern Pacific Ry. Co.	1	324,130	....	324,130	69,019	393,149
First group, 3 holders	3	667,259	135,958	803,217	[2] 49,937	853,154
Second group, 3 holders	3	135,355	16,102	151,457	....	151,457
Total	7	1,126,744	152,060	1,278,804	118,956	1,397,760

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[1] The Northern Pacific Ry. Co. also owns timber in the Lake States, and the Weyerhaeuser interests (controlling in Idaho the Edward Rutledge Timber Co. and the Bonner's Ferry Lumber Co. (Ltd.)) also control a company owning a large amount of valuable timber in the Lake States. These holdings of the Northern Pacific and the Weyerhaeuser interests in the Lake States amount to 127,604 acres of timbered land. The Northern Pacific's portion of this acreage is considerable, but it is lightly timbered.

[2] Owned by only 1 of the 3 holders.

TABLE 39.—ACREAGE OF TIMBER (INCLUDING TIMBER RIGHTS) AND
TIONAL LAND OWNED, ETC.—Continued.

Holders platted on Idaho map.	Number of holders.	In Pacific-Northwest.			
		Merchantable-timber acreage.			Additional land reported.
		Fee.	Timber rights.	Total.	
		Acres.	Acres.	Acres.	Acres.
Northern Pacific Ry. Co.	1	2,979,028		2,979,028	[1] 179,457
First group, 3 holders	3	969,654	140,378	1,110,032	61,570
Second group, 3 holders	3	153,018	18,702	171,720	
Total	7	4,101,700	159,080	4,260,780	241,027

[1] The figure of 179,457 is incomplete for the Northern Pacific's additional lands in the Pacific-No
It covers probably the greater part of the company's additional lands in the timbered counties inve
by the Bureau, but covers none of its very large holdings in the nontimbered regions of the States of
Washington, Idaho, and Montana. All totals which include the 179,457 acres are consequently
plete. The total land holding of this company in the whole country is 9,949,985, of which all but
acres are in the Pacific-Northwest. The total is shown separately by States in Part I, p. 225. (
Part III, Chap. II, sec. 4.)

The merchantable-timber acreage in the above table is, of co
the same as that shown in Table 38. The additional land and
acreage have not been given in the previous table. The only
ditional land sho[illegible]for these 7 holders is 1
acres of the Northern Pacific. In the State as a whole, however
Northern Pacific has 69,019 acres of additional land, so far
additional land has been tabulated by the Bureau; and the first
of 3 have 49,937 acres of additional land. Thus, the 4 holders
lands in Idaho totaling 1,246,303 acres (which include 135,958
of timber rights). In the Pacific-Northwest column the table
the partial figure of 179,457 acres of additional land for the Nor
Pacific and 61,570 acres for the first group of 3. Adding the
acres here shown for the Northern Pacific and the first group
would give 4,330,082 acres for 4 holders. The total of acreag
the 7 holders is 4,501,807 acres, of which 4,260,780[1] carry merc
able timber. Such facts as these are of grave importance.

Section 8. Manner of acquisition of timberland in portions of
questioned.

A resolution introduced in the House of Representatives in
(H. Res. 807, 61st Cong., 2d sess.) charged fraud in the acquisiti
public lands by lumber companies in the State of Idaho, and direc
Congressional investigation of the matter. The territory involve
referred to as "the Marble Creek district in the counties of Sho
Kootenai, and Nez Perce," the area covered being given as app

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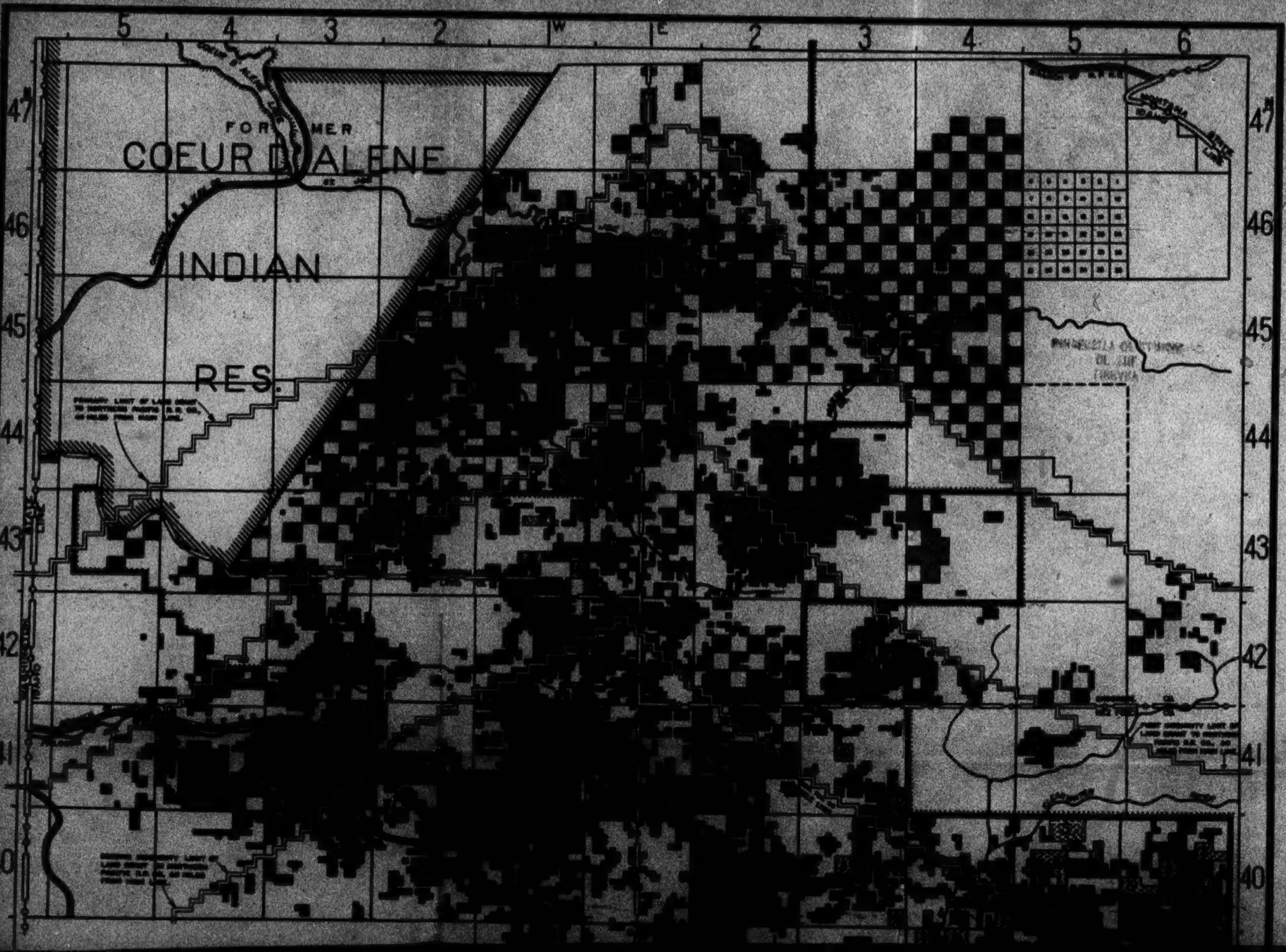
[1] Including 159,080 acres timber rights.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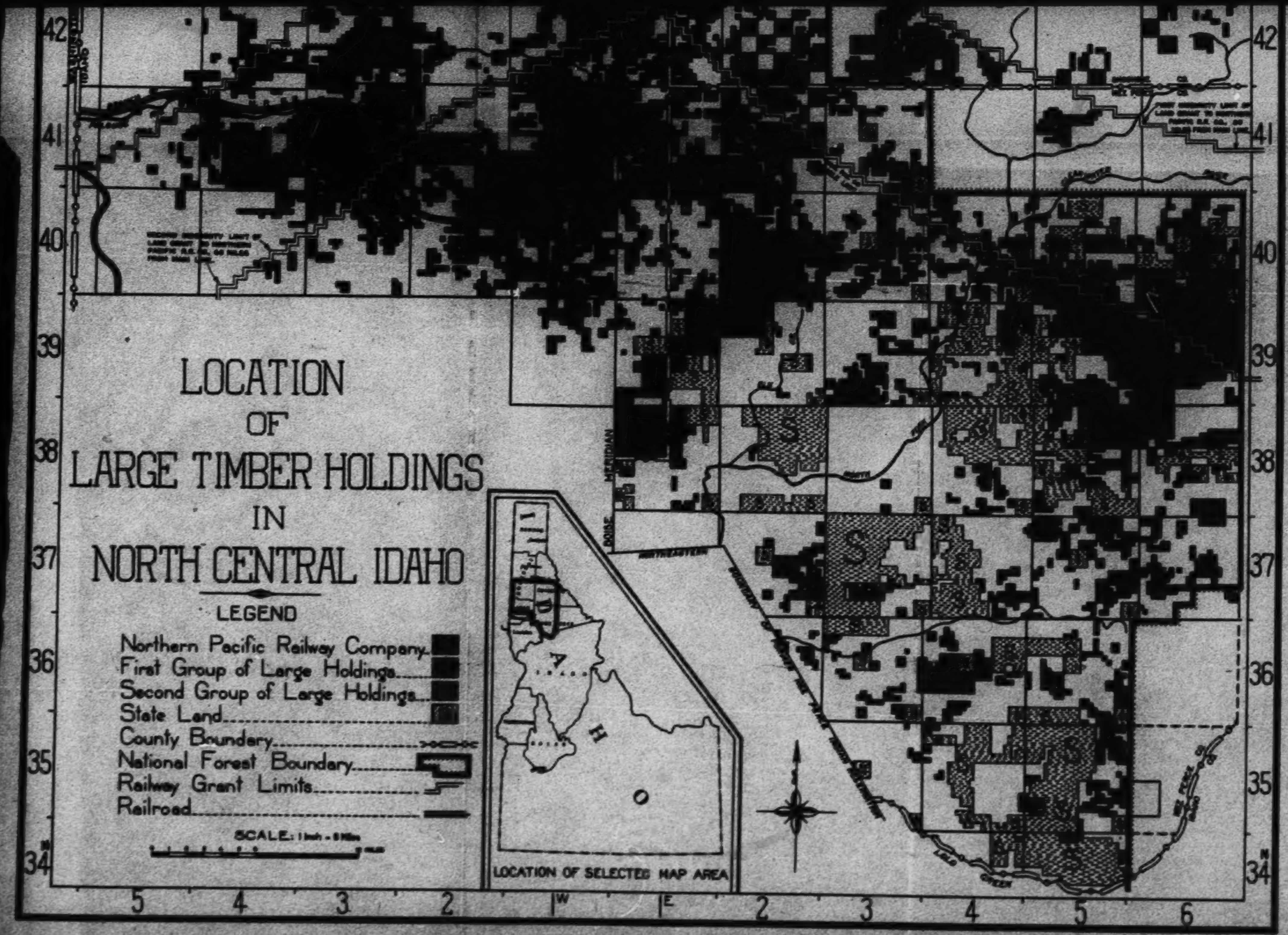
PRIMARY LIMIT OF LAND GRANT TO NORTHERN PACIFIC R.R. CO., 40 MILES FROM MAIN LINE.



LOCATION OF LARGE TIMBER HOLDINGS IN NORTH CENTRAL IDAHO

LEGEND
Northern Pacific Railway Company
First Group of Large Holdings
Second Group of Large Holdings
State Land
County Boundary
National Forest Boundary
Railway Grant Limits
Railroad
SCALE: 1 inch = 6 Miles
LOCATION OF SELECTED MAP AREA
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mately 14 townships. The proposed resolution alleged, in general, that the Edward Rutledge Lumber Co. and other companies operating in the district had formed an unlawful combination, and were affiliated "in what is commonly known as the Weyerhaeuser Lumber Syndicate," and were acting together in fraudulently acquiring title to the public lands referred to, and in manufacturing and disposing of the lumber products of these lands. It further charged that many settlers then living upon these lands were being forcibly and fraudulently interfered with by this alleged syndicate, and that the market value of the white-pine timber of this region had been forced down to not more than $5,000 per quarter section, when the actual value of many quarter sections was $35,000. It also alleged specific acts of fraud, conspiracy, and intimidation in acquiring or attempting to acquire these lands. Certain officers and agents of the State of Idaho were involved in the charges.

The resolution further recited that Northern Pacific scrip bought by the syndicate was filed on lands already occupied by settlers; that claim jumpers were employed, and contests entered in the local land office. Of the companies referred to in the resolution as comprising the "Weyerhaeuser Lumber Syndicate" only two were named, the "Edward Rutledge Lumber Co." and the "Potlatch Association."

The resolution was referred to the Committee on Rules, but was never reported out of committee, and no further action was taken.

CHAPTER VI.

CONCENTRATION OF TIMBER OWNERSHIP IN WEST CENTRAL LOUISIANA.

Section 1. Amount and general distribution of timber in Louisiana.

Louisiana contains more timber than any other State, except the three Pacific Coast States. The total timber in Louisiana is about 120 billion feet, which is nearly 19 per cent of the total reported for the Southern Pine Region. It exceeds by about 25 per cent the entire amount reported for the State of Mississippi, which ranks next to Louisiana. Louisiana contains nearly 18 per cent of the total yellow pine, nearly 23 per cent of the total longleaf yellow pine, and nearly 39 per cent of the total cypress. It contains about 10 per cent of the total shortleaf yellow pine and about 17 per cent of the total hardwoods in the Southern Pine Region.

The timber of Louisiana is divided by species as follows:

Species.	Billion feet.	Per cent.	Species.	Billion feet.	Per
Longleaf pine	52.5	43.8	Cypress	15.7	[illegible]
Shortleaf pine	15.2	12.7	Hardwoods	36.4	[illegible]
Total yellow pine	67.7	56.5	Total timber	119.8	[illegible]

The State is especially characterized by its extremely heavy stands of longleaf yellow pine and cypress, which grow here to their greatest perfection. There are two longleaf-pine regions in the State, one lying west of the Mississippi River and the other east of it. The most important of these lies west of the Mississippi and runs diagonally across a large part of the State from the southwest to the northeast, covering the timbered portions of the parishes [illegible] counties) of Calcasieu, Vernon, Rapides, and Grant, practically [illegible] of Winn and Natchitoches, and considerable areas in St. L[illegible], Sabine, Catahoula, Caldwell, Jackson, and Bienville. On the west this region extends into Texas. This longleaf belt is divided into two parts by the Red River Valley. From the neighborhood of the Red River northward shortleaf pine is found mixed with the longleaf until the boundary of the shortleaf district proper is reached. In Calcasieu, Vernon, and western Rapides Parishes, the longleaf grows in practically pure stands, 15,000 to 20,000 feet per acre over considerable areas being not at all uncommon. There is considerable hardwood in the creek and river bottoms of this longleaf district, particularly in the valleys of the Red, Sabine, and Calcasieu Rivers. A large part of the longleaf belt just described has been mapped. The map faces page 134. A description of it is given on page 134.

The other longleaf-pine district, east of the Mississippi River, lies in Washington, St. Tammany, Tangipahoa, Livingston, and St. Helena Parishes, and is really an extension of the longleaf district of the State of Mississippi.

Generally speaking, the main body of shortleaf pine in Louisiana is found in the uplands in the northwestern part of the State, a region extending southward about one-third of the length of the State, and eastward till it meets the hardwood belt that stretches from 30 to 50 miles in width along the Mississippi River. Considerably south of the main body of the shortleaf pine are narrow armlike strips of shortleaf timber reaching down from the west and the east in such a way as to partially embrace that portion of the longleaf-pine belt which is north of the Red River. There is also a small area of shortleaf pine in that part of the State which lies east of the Mississippi River. Small amounts of loblolly pine are found along the streams in the longleaf regions and also in the shortleaf district itself, but no distinction between loblolly and shortleaf was made by the lumbermen in their reports.

Hardwoods often occur more or less mixed with shortleaf pine, and a considerable proportion (18 per cent) of the total hardwood reported in the State is found in the shortleaf-pine district, especially along the creek and river bottoms where the timber is almost pure hardwood. The principal hardwood district of the State, however, is a strip from 30 to 50 miles wide following, roughly, the course of the Mississippi River southward to the point where the great cypress district is encountered. Much of this land is subject to overflow during certain seasons of the year. Only in recent years have the possibilities of the timber of this region been realized even by large investors.

Most of the cypress of Louisiana is found in a comparatively limited area covering the river and delta parishes in the southern part of the State, especially in the great swamps. Some cypress is found along the streams all through the State, but in relatively small amounts in any particular region, outside the great cypress district just mentioned.

The largest single area in Louisiana which is nontimbered is in the extreme south central and southwestern part of the State. A considerable part of Calcasieu and St. Landry, and practically the whole of Acadia and Lafayette Parishes is prairie land. Cameron Parish is almost entirely marsh land, while Vermilion is divided between marsh and prairie.

Section 2. General description of west central Louisiana map.

Of the 119.8 billion feet of timber in the State of Louisiana, about 41 billion feet, or one-third, stand on the area in west central Louisiana selected for mapping.

LOCATION OF MAP AREA.—The Louisiana map area, which embraces the best longleaf-pine district of the State, extends from the vicinity of the city of Lake Charles on the south to that of Natchitoches on the north, and from the vicinity of Alexandria on the east to the Sabine River (the boundary between Louisiana and Texas) on the west. More exactly, in terms of the Government survey, it covers the territory from township 9 S. to 8 N. and from the Louisiana meridian westward to the State boundary, an area about 100 miles north and south by from 65 to 85 miles east and west. It includes all of Vernon Parish (or County), all the timbered area of Calcasieu Parish; parts of Sabine, Natchitoches, Grant, Rapides, and St. Landry Parishes; and a nontimbered corner of Acadia Parish. The exact location of the selected area is shown by a key drawn in the margin of the map.

MAPPING DETAILS.—The base line runs from east to west through the middle of the map, but on account of the heavy platting there was no room to name it except at the western extremity. The tiers of townships are numbered north and south from it. The Louisiana meridian forms the east boundary of the map, so that the ranges shown are 1 W. to 14 W. The sample township in 6 S., 1 W., illustrates what is frequently found in this part of Louisiana; namely, old grants made before the acquisition of the territory by the United States. These irregularly shaped grants interrupt the uniformity of the rectangular survey, as indicated by the ones numbered 37 and 38 in the sample township. Evidence of such irregularly shaped grants may be seen in various places on the map; for example, in 7 and 8 N., 7 W.; in 8 N., 12, 13, and 14 W.; and to the southwest of Alexandria.

STREAMS AND RAILROADS.—The Sabine River on the west and the Red River crossing the northeastern corner are the chief streams of this area, though it is also watered by the Calcasieu River in the southern part and by many creeks and bayous. Railroads are not shown on the map.[1]

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[1] The Southern Pacific crosses the extreme southern part of the selected area; the Colorado Southern crosses the central part of Calcasieu Parish; the Atchison, Topeka & Santa Fe operates a line crossing northern Calcasieu and southern Vernon Parishes; the St. Louis, Iron Mountain & Southern traverses a lightly platted part of the map from Alexandria south and then southwesterly along the Calcasieu River to Lake Charles; the Texas & Pacific (formerly the New Orleans Pacific, a land-grant railroad) runs in a northwesterly direction from Alexandria, along the Red River; and the Louisiana Ry. & Navigation Co.'s road follows the east side of the Red River. The other chief railroads of the district are (1) the Kansas City Southern, running north and south through Many, Leesville, and De Quincy, and thence southwesterly to Port Arthur, Tex., on the Gulf, with a line also from De Quincy to Lake Charles; (2) the Chicago, Rock Island & Pacific, running north and south along the eastern edge of the mapped area.

LIMITS OF LAND GRANT TO NEW ORLEANS PACIFIC RAILROAD CO.—The New Orleans, Baton Rouge & Vicksburg Railroad, by act of Congress of March 3, 1871 (16 Stat., 573), was granted lands along the line of its road from New Orleans to Baton Rouge and thence by way of Alexandria to connect with the Texas Pacific Railroad at its eastern terminus at Shreveport, La. The grant included odd sections within 20 miles on each side of the road with indemnity limits extending 10 miles farther on each side.

This grant, by an amendatory act of February 8, 1887 (24 Stat., 391), was confirmed to the New Orleans Pacific Railroad Co., though the portion from White Castle, La., eastward was forfeited. The area patented under it was 1,001,017 acres. The grant is practically adjusted and it is unlikely that any further lands will be patented.

The limits of this grant are not shown on the map. They may, however, be roughly located as follows:

The railroad from which the limits of the grant are calculated is the present Texas Pacific, which runs through Alexandria along the Red River to about the middle of township 7 N., 6 W.; thence, leaving the river, runs northwesterly and goes out of the map area at the northwest corner of township 8 N., 9 W. All the map area to the north and east of the Texas Pacific Railroad is within the limits of the land grant. In fact, the 20-mile or primary limit crosses the extreme northeastern corner of the map and, of course, the indemnity limit extends 10 miles farther to the northeast. To the south of the railroad line the 20-mile or primary limit runs from a point between townships 3 and 4 S. on the eastern boundary of the map northwesterly to a point near the northeast corner of township 1 N., 4 W., and thence more westerly than north to the extreme northwest corner of the map. The indemnity limit runs parallel to the primary limit just described, and 10 miles farther south, being located 30 miles to the south of the road itself. It marks the extreme limit to the south within which the railroad company could select lands. It extends from about section 36 of the sample township in 6 S., 1 W., northwesterly till it cuts the base line at a point between ranges 5 and 6 W.; thence it veers more to the westward, passing just above the name of Leesville, until it reaches the State line at the Sabine River, between townships 4 and 5 N. Hence, one may judge roughly with the eye that the railroad company had an opportunity to select lands throughout practically half the map area.

Though the railroad lands were originally granted in odd-numbered sections, each 1 mile square (one-sixth of an inch on the scale of the map), little of the checkerboard effect of the alternate squares is now seen on the map. This is because purchasers of railroad lands have often "filled in" with lands in the even-numbered sections. In some places, however, the odd-numbered sections, formerly railroad lands, stand out distinctly; for example, in 3 N., 5 W., several are platted in solid black, and in 1 N., 5 and 6 W., they are platted with the cross hatch.

Of the 1,001,017 acres originally patented to the New Orleans Pacific, 657,685 acres lie on the area of the map. The present ownership of this land, which is now largely held by great timber owners, is stated in Table 42, page 146, and its significance is there discussed.

MAP SYMBOLS.—The legend shows the symbols used in platting the lands of three groups of timber owners. Each group consists of a number of separate owners whose lands are platted with a single symbol.

In the case of each of the other maps the holders are grouped according to the amount of timber owned on the map area or in the State. But in this case the holders are assigned to their groups according to the amount of timber each owns in the entire Southern Pine Region. The first group (platted in solid black) consists of 14 separate holders, each owning over 1 billion feet of timber in the Southern Pine Region. The second group (platted with a heavy crosshatch) consists of 25 separate holders, ranging from 250 million feet of timber to 1 billion feet each in the Southern Pine Region. The third group (platted with a single light diagonal) consists of 35 separate holders, each owning less than 250 million feet of timber in the Southern Pine Region. These groups will be discussed in later sections.

Section 3. Concentration of timber ownership in area of Louisiana map.

Table 40 on page 137 has three purposes. It is designed to show (1) how thoroughly the Bureau's investigation covered the timber on the Louisiana map area; to show (2) the timbered acreage of the three groups of holdings platted on the map, and the timber thereon; and, especially, to show (3) the degree of concentration of ownership of the timber owned on this area by holders of over 60 million feet each. For these purposes there is shown the total timbered acreage and timber owned in this area by all *separately reported* holders (105 in number); that by all *platted* holders (74 in number); and that by all holders *of over 60 million feet* (62 in number). There were 105 holders separately reported; of these, there were 74 whose reports showed the location of their lands so that they could be platted; and of the 74, in turn, there were 62 who own over 60 million feet each. Of the 105 separately reported holders 31 could not be platted on the map and 43 of the 105 have less than 60 million feet each.

The following outline of the grouping in Table 40 shows how many separately reported holders own over 60 million feet each; how many, less than 60 million; how many are platted; and how many unplatted:

Separately reported holders.

		No. of holders.		
Over 60 million feet	First group, platted	14	Total platted	74
	Second group, platted	25		
	Third group, platted	23		
	Total holders of over 60 million feet	62		
Less than 60 million feet	Third group, platted	12		
	Third group, unplatted	31	Total unplatted	31
	Total holders less than 60 million feet	43		
Total separately reported holders		105		105

TABLE 40.—TIMBER ACREAGE AND TIMBER ON LOUISIANA MAP IN HOLDINGS OF OVER 60 MILLION FEET EACH, AND PER CENT BASED ON TOTAL TIMBER IN SUCH HOLDINGS; ALSO PLATTED HOLDINGS AND SEPARATELY REPORTED HOLDINGS BY GROUPS.

[Timber in billions of board feet. Thus, 21.8=21,800,000,000 board feet.]

Holders.	Number of holders.	Timber acreage[1] owned on map area.	Timber owned on map area.	
			Billion feet.	Per cent based on total timber in holdings of over 60 million feet each.
		Acres.		
First group, 14 platted holders	14	1,453,167	21.8	66.5
Second group, 25 platted holders	25	632,341	8.4	25.6
Third group of 66 holders:				
(1) 23 platted holders of over 60 million feet each	23	258,040	2.6	7.9
(2) 12 platted holders of less than 60 million feet each	12	21,160	.2	
(3) 31 unplatted holders of less than 60 million feet each	31	65,061	.5	
Total, third group	66	344,261	3.3	
Total separately reported holders	105	2,429,769	33.5	
SUMMARY.				
Total, holders of over 60 million feet each	62	2,343,548	32.8	100.0
Total, holders of less than 60 million feet each	43	86,221	.7	
Total, separately reported holders	105	2,429,769	33.5	
Total, platted holders	74	2,364,708	33.0	
Total, unplatted holders	31	65,061	.5	
Total, separately reported holders	105	2,429,769	33.5	

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[1] Including 195,831 acres reported as timber rights, as follows: The first group, 84,880 acres; the second group, 50,377 acres; and the third group, 51,574 acres, of which 50,474 acres belong to the 23 platted holders of over 60 million feet and 1,100 acres to the 31 unplatted holders of less than 60 million feet. In addition there are in the first group about 4,000 acres of not-distinguished lands which may be timber rights.

By "separate report" is meant a report covering a particular owner and giving the amount of timber and acreage held, and in most cases its exact location. These separate reports on enumerated holdings are distinguished from the general or lump estimates by which it was necessary to cover the small holdings owned by unimportant companies and individuals—hundreds upon hundreds in number, but constituting in the aggregate only a minor part of the total.

Attention should be called to the fact that many of the holders in the groups listed in the present table also have nontimbered lands. A later table states the additional lands reported as owned on this map area by these holders.

The table itself shows that the 105 separately reported holders own 83.5 billion feet of timber standing on 2,429,769 acres of timbered land. This is approximately 80 per cent of the total timber on this map area and about the same per cent of the timbered land.[1] In other words, for four-fifths of the timber on this area, the Bureau is informed not only as to its amount but as to its ownership in detail and its exact or its approximate location. On the map area there are, all told, somewhere in the neighborhood of 670,000 acres of timbered land (much of it hardwoods) which were covered by means of general estimates, instead of by separate reports, so that their ownership could not be platted. This is less than one-fourth of the timbered area of the map.

The completeness with which this particular area, containing a third of the timber in Louisiana, was canvassed is but a sample of the fashion in which the whole work of the investigation was done.[2]

The importance of separate reports showing the amount and location of the timber owned by various companies and large holders is obvious. They were of especial value, throughout the investigation, in enabling the Bureau to arrive at the amount of timber with far more accuracy than could have been attained merely by general estimates.

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[1] See p. 139, for approximation of total timbered acreage and timber on the map area.

[2] It has been emphasized in previous chapters that the ownership maps for other regions have shown the lands of only a comparatively few of the holders owning in the region, the purpose there being to show graphically what a large proportion of the total area was in the hands of these relatively few large holders. Attention was called in the discussion at the beginning of Part II to the fact that in all the map areas the exact location of nearly every one of the more important "unplatted holders" is known to the Bureau. In the case of the maps hitherto presented, such holdings were not platted because the purposes of the maps did not demand that they should be. It was done here for the purpose of indicating how thoroughly the investigation went into details. For most holdings of 60 million feet and over throughout the greater part of the investigation area the Bureau has the definite location, had it desired to plat such lands, though of course, on every map area there is a considerable amount of smaller holdings, many of them in the hands of individual claim owners, which have been covered by means of general estimates without attempting to secure the ownership or location of the land in detail. This map is, therefore, a sample of what might be shown for any of the heavily timbered regions included in the investigation area, excepting those States where the absence of the regular Government survey made it difficult to secure plats of the exact location of holdings.

CONCENTRATION OF TIMBER OWNERSHIP AMONG HOLDERS OF OVER 60 MILLION FEET EACH.—In the other map discussions tables are given showing the total amounts of timber privately owned in the various map areas, and percentages of ownership are based on those totals. In the present case, however, it is difficult to state with exactness the amount of timber standing on the area of the map. The reason is that the general estimates secured in certain parishes were not given separately by townships. Consequently, when only part of a parish was included in the map it was not always possible to determine with precision the amount of timber covered by general estimates in that part of the parish. The best approximation that can be made of the total timber on the map area places the merchantable-timber acreage at about 3,100,000 acres and the timber at about 41 billion feet. This timber figure may be too great or too small by possibly 500 million feet. In the present discussion, therefore, the percentages of concentration are based on the amount of timber owned by holders of over 60 million feet, a figure subject to far less likelihood of error.[1]

The 62 holders who each own over 60 million feet have, on this map area, 2,243,548 acres of merchantable-timber land on which stand 32.8 billion feet of timber. This is about 80 per cent of the rough total of 41 billion owned by all holders on the map area. On account of the roughness of that total, no percentages have been based on it in the table. Instead, the basis used is the 32.8 billion owned by the 62 holders of over 60 million feet. With this as 100 per cent the percentage column shows, in effect, what proportion of the amount held by the larger timber owners—those who may be said to be in the timber business—is own by each particular group. The first two groups are discussed from this point of view in the following subsections. Regarding the 23 holders who constitute those of the third group who own over 60 million feet each, it is only necessary to point out that they own only about 8 per cent of the total held in the map area by all owners of over 60 million feet.

Holdings of first group—14 platted holders—on map area. (Map symbol, solid black.)—The first group consisting of 14 platted holders has in the area selected for mapping 1,453,147 acres of timberland and 21.8 billion feet of timber. Their timber amounts to two-thirds of the total owned on this map area by holders of over 60

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[1] To a limited extent a similar necessity for approximation was experienced with reference to timber owned by holders of over 60 million feet. It was not always possible to divide the holding of a company so as to be sure of the exact amount of timber on the map area and off the map area. Nevertheless, the amount of timber for which such approximation had to be made was only about 10 per cent of the total. In 90 per cent no approximation was necessary. The error in the approximation of the remaining 10 per cent would probably not amount to more than 1 per cent of the total.

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million feet each, and to more than one-sixth of all the timber in the State. For these 14 holders it will be observed the average size of holding of timberland and timber rights on the map area is over 100,000 acres. The timbered acreage of single holdings of individual members of the group varies from a minimum (with one exception) of 35,000 acres to over 250,000 acres. For the 14 the *average* amount of timber owned by each on the map area is over a billion and a half board feet. In the Southern Pine Region as a whole *each* member of this group owns over a billion feet, and with one exception over a billion and a half each. The figures in Table 40 cover only their holdings on the map area itself. Later tables will set forth the holdings of the first platted group and part of the second in the State and in the Southern Pine Region.

Among the largest timber owners in this first group of 14 are (1) Calcasieu Pine and Southland Lumber companies; (2) Frost-Johnson Lumber Co., including its subsidiary the Union Sawmill Co., which has a large amount of timber in Arkansas and off the map area in Louisiana; (3) Long-Bell Lumber Co. interests; (4) a number of companies under the management of William Buchanan (timber on this map area in the name of Grant Land & Lumber Co.); (5) Lutcher-Moore interests; (6) Chicago Lumber & Coal Co. interests; (7) Missouri Lumber & Land Exchange (timber on this map area in the name of Louisiana Longleaf Lumber Co.); and (8) the Kirby Lumber Co. (which bought the timber on the lands of the Houston Oil Co.). The Kirby Lumber Co. has comparatively little timber on the map area, but has very extensive holdings across the Sabine River in Texas, which make it the largest single holder of timber in the Southern Pine Region.

The Weyerhaeuser family and their associates are interested in the Calcasieu Pine Co. and the Southland Lumber Co., F. E. Weyerhaeuser being president of the latter. F. S. Bell, secretary of the former, is also vice president of the Weyerhaeuser Timber Co., and secretary of the Potlatch Lumber Co. (a large timber owner in Idaho).

Other of the large timber holders of the Louisiana map area are connected with each other, as well as with large holders in other regions. Some of the more important of these interrelations are stated here as an illustration of the weaving together of interests which is common in almost every important timber territory of the country, through individual minority stock interests, or through common officers and directors. Thus, the Central Coal & Coke Co. and Chicago Lumber & Coal Co. have a common director who is also an important stockholder in the chief constituent company of the Frost-Johnson Lumber Co. Two other directors of the Chicago Lumber & Coal Co. are stockholders in the Weyerhaeuser Timber Co. These same two directors are important stockholders in certain companies allied with the Missouri Lumber & Land Exchange (Louisiana Central and

Louisiana Longleaf Lumber Cos.). The Long-Bell Lumber Co. is connected through individuals with the Bradford-Kees Lumber Co. (a holder of the third group) and it in turn with the Big Pine Lumber Co. (of the second group) and Iatt Lumber Co. (of the third group). This is not a complete statement of the connections of the holders within the map area. The real degree of concentration is probably understated, therefore, by the figures given in the tables.

Since the Bureau's tabulations were completed, information has been received that one of the holders of the first group on the Louisiana map area has purchased 28,128 acres of timberlands from another member of the same group. Even after the sale of this tract the selling holder has enough timber left to rank as a member of the first group, so that the transfer would make no difference in the group totals throughout this discussion.

Holdings of the second group—25 platted holders—on map area. (Map symbol, heavy crosshatch.)—The group of 25 platted holders has on the map area 652,361 acres of timberland and 8.4 billion feet of timber. This amounts to 25.6 per cent of the total amount of timber owned on this area by holders of over 60 million feet each. The lands of these 25 holders are platted on the map with a single symbol, the heavy crosshatch.

The 25 members of this group were selected for platting on the basis of the amount of timber owned by each in the Southern Pine Region as a whole, each (with the exception of 2 or 3) having from 250 million feet to 1 billion feet in that region.

Among the holdings in this group is one in which the Southern Pacific Co. has an interest. Another of the holders has lands platted in the second group on the redwood map (California) and in the fourth group on the western Oregon map. A holding of the Atchison, Topeka & Santa Fe Railway Co. is also included here. In New Mexico and Arizona, outside the investigation area, this railway company has about 9,500,000 acres of land, part of which is timbered, originally granted to the Atlantic & Pacific Railroad, to which the Atchison, Topeka & Santa Fe is successor through the Santa Fe Pacific Railway Co.

An important sale has been recently made by which a large amount of excellent timber on lands in Calcasieu Parish held by trustees of the estate of William Rice for the benefit of William Rice Institute of Houston, Tex., becomes the property of the newly formed American Lumber Co., which is controlled nominally by Mr. Sam Park, but really by Atchison, Topeka & Santa Fe interests back of him.[1] This timber is carried in the Bureau's tables in the name of William

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[1] Press reports of a later date indicate that Mr. Park's connection with the American Lumber Co. was terminated on account of his recognition of the Brotherhood of Timber Workers in the mills of the company. Southern Industrial and Lumber Review (Southwest), Nov., 1912, p. 23.

Rice Institute, the information having been received too late to make any change. The holding is in the group of 25 platted holders. Mr. Park also has a strong minority interest in the Industrial Lumber Co., one of the holders in the group of 14 platted on the map. The timber involved in the sale of the William Rice Institute holding is said to be approximately 1.1 billion feet, and the sale price to be in the neighborhood of $5,000,000, or upwards of $4.50 per thousand feet. The land is not included, only the timber rights, with 20 years in which to cut. Of the 49,000 acres involved in this sale, Mr. Rice purchased about 46,000 acres from the Government in 1882 for less than $60,000. (See p. 148.)

Summary of concentration.—Four members of the group of 14 platted holders own over half of the timber held on the map area by that group. The 4 holders are the Calcasieu Pine Co. and Southland Lumber Co.; the Long-Bell Lumber Co. interests; the Chicago Lumber & Coal Co. interests; and the Lutcher-Moore interests. They have on the map area 802,181 acres of merchantable-timber land with a stand of 12.3 billion feet of timber. This is 37.5 per cent of the timber held on this area by owners of over 60 million feet each.

Four other owners in the group of 14 hold on this area 361,175 acres of merchantable-timber land carrying 6 billion feet of timber, or 18 per cent of the amount held on the map by owners of over 60 million feet each. Thus, 8 members of the group of 14 holders have on this map area 18.3 billion feet, or more than 55 per cent of the timber of all the 62 holders. The entire group of 14 own 66.5 per cent of that owned by the 62 holders.

These 14 members of the first group with 7 holders selected from the second group, own well over 80 per cent of all the timber on the map area owned by holders having over 60 million feet each.

Finally, the 39 separate holdings comprised in the first two groups of platted holders aggregate 30.2 billion feet of timber out of the 32.8 owned by holders of over 60 million feet each, or 92.1 per cent of the total.

Section 4. Concentration especially marked in longleaf pine.

One more fact should be emphasized in connection with the concentration of timber ownership in the area mapped, the big owners have the best timber—the valuable longleaf pine—while the hardwoods, at present considered of comparatively little value, are held mostly by small owners.[1] For the map area it is difficult (because of the form in which some estimates were reported) to make an exact division of the timber of all holders by species. However, out of the 21.8 billion feet of the group of 14 holders 18.8 billion feet, or more than 85 per cent, can be divided into species accurately with reference to the map area, and for the other two groups a still higher proportion.

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[1] This condition is clearly shown for the State as a whole in Part I, p. 141.

Of the 18.8 billion feet of the timber of the first group that can be divided by species, 97.9 per cent is longleaf pine, and only 1.6 per cent is hardwood. It is probable that the undivided remainder of 3 billion feet, if divided among the species, would not very much change these percentages. The map shows that the lands of this group lie almost altogether away from the river bottoms where the hardwoods mainly grow.

For the second group 94 per cent of their timber on the map area is divisible into species. Their longleaf pine amounts to 93.7 per cent of their total divisible by species; shortleaf pine, 1.3 per cent; cypress, a negligible per cent; and hardwoods, 5 per cent. Here we have still a very high proportion of longleaf pine indicated. While hardwoods form a higher proportion than in the case of the first group of 14, they are still relatively insignificant.

For the 23 holders of over 60 million feet in the group of 66, on the other hand, the per cent of longleaf pine is much lower—only about 70 per cent—while the shortleaf is 11.5 per cent, and the proportion of hardwoods—practically 15 per cent—is very much higher than it was in the case of the first two groups. A considerable proportion of their land lies along the river valleys, and especially along the Sabine, the Calcasieu, and the Red River.

Section 5. Additional land owned on map area by separately reported holders.

About one-seventh of the total acreage platted on the Louisiana ownership map consists of land reported as not bearing merchantable timber. This additional land has not appeared in the Louisiana map tables already given, for they are concerned only with timbered land and timber. Table 41 shows by groups the amount of additional land held on the map area by timber owners separately reported, and their total acreage. The figures for merchantable-timber land are repeated from Table 40 and include a considerable amount of timber rights. The purpose of this section is to state numerically for this area the concentration of ownership of land and timber rights which has already been graphically told by the map itself with its preponderant masses of solid black and its hatched symbols.

Large regions are owned by a few holders, and whatever value these regions now have or may develop (whether for timber, for agriculture, or for minerals), a large part will belong to a very few, if the present ownership of large tracts is continued. In using the map or the table, however, it should be borne in mind that there is considerable acreage platted and tabulated (195,000 acres) which is held in the form of timber rights, not in fee.

The holders in the total-acreage table, which follows, are the separately reported holders of Table 40, with a subdivision of the third group in such a way as to show the totals for holders of over 60 million feet each, and for platted holders, as well as for separately reported holders.

TABLE 41.—ACREAGE OF TIMBER (INCLUDING TIMBER RIGHTS) AND ADDITIONAL LAND OWNED ON LOUISIANA MAP BY HOLDERS OF OVER 60 MILLION FEET EACH, BY PLATTED HOLDERS, AND BY SEPARATELY REPORTED HOLDERS, BY GROUPS.

[Not all members of a group own additional land. The number of those owning such land is shown for each group, parenthetically in italics, in the additional land column.]

Holders.	Number of holders.	Merchantable-timber acreage.			Additional land reported.	Total on map area.
		Fee.	Timber rights.	Total.		
		Acres.	*Acres.*	*Acres.*	*Acres.*	*Acres.*
First group, 14 platted holders	14	1,368,267	84,880	1,453,147	(*8*) 235,036	1,688,1
Second group, 25 platted holders	25	592,984	59,377	652,361	(*8*) 145,644	798,0
Third group, 66 holders:						
(1) 23 platted holders of over 60 million feet each	23	187,566	50,474	238,040	(*5*) 8,382	246,4
(2) 12 platted holders of less than 60 million feet each	12	21,160	....	21,160	(*5*) 11,040	32,2
Total, platted holders, third group	35	208,726	50,474	259,200	(*10*) 19,422	278,6
(3) 31 unplatted holders of less than 60 million feet each	31	63,961	1,100	65,061	(*1*) 3,000	68,0
Total, third group	66	272,687	51,574	324,261	(*11*) 22,422	346,6
Total, separately reported holders	105	2,233,938	195,831	2,429,760	(*27*) 403,102	2,832,8
SUMMARY.[1]						
Total, holders of over 60 million feet each	62	2,148,817	194,731	2,343,548	(*21*) 389,062	2,732,6
Total, platted holders	74	2,169,977	194,731	2,364,708	(*26*) 400,102	2,764,8
Total, separately reported holders	105	2,233,938	195,831	2,429,760	(*27*) 403,102	2,832,8

[1] The totals in the summary of the table are arrived at as follows: (1) Total holders of over 60 million feet, by addition of first group of 14, second group of 25, and the first division (23 holders) of the third group; (2) total platted holders, by addition of 12 platted holders of less than 60 million feet each to the 62 holders of over 60 million feet each, all of whom are platted; (3) total separately reported holders is the grand total, including the 31 unplatted holders of less than 60 million feet each.

This table shows that the first and second groups of platted holders have a very high percentage of additional lands. These are mainly lands that have been cut over or denuded by those members of these groups who are operators of large sawmills.

It should be noted that the plats furnished by the platted holders do not appear to cover as much land as the acreage they reported owning. A count of the plats furnished by the second group of 25 and by the third group of 35 platted holders shows only approximately 944,000 acres, while the acreage they reported owning is 1,076,627 acres. In other words, these two groups reported something like 132,000 acres that can not be accounted for on the plats they furnished. Part of this difference may be due to the fact that some sections counted on the plats as 640 acres perhaps contain by the actual survey more than 640 acres. These 132,000 acres, taken with the 68,000 acres of the 31 separately reported holders of the third group who furnished no plats at all, make a total of about 200,000 acres separately reported to the Bureau, but not shown on the map. There is nothing to indicate how much of the 132,000 acres is timbered; of the 68,000 acres, 65,000 are timbered and 3,000 nontimbered.

The 1,603,303 acres held in fee on this area by 14 holders are the equivalent of nearly 70 solid townships, a township being 6 miles square and appearing on the map as 1 inch each way. Again, their total holding is equivalent to over 10,000 "quarter sections" such as an individual is allowed under the homestead act. The second group of 25 holders with their total of 738,628 acres fee on the map has an average fee holding of nearly 30,000 acres. The 145,644 acres of additional land shown for the group are owned by 8 holders out of the 25. The 8 own in fee merchantable timber land on the map area amounting to 202,929 acres, giving them a total fee on the map of 348,573 acres, of which the 145,644 acres of cut-over land constitutes over two-fifths.

The total fee acreage owned on the map area by holders of over 60 million feet is 2,537,879 acres. The corresponding total for all platted holders is 2,570,079 acres. Of this, the 5 largest fee holders on the map would be found to have 981,966 acres, and the next 3 to have 336,096 acres, making for the 8 largest a total of 1,318,062 acres. This is 51 per cent of the total fee acreage of the platted holders in this area.

In addition to their fee lands, the 74 platted holders have about 195,000 acres of timber rights—lands over which their leases give them control, in many cases, for 15 to 20 years.

Section 6. Effect of New Orleans Pacific Railroad grant on ownership in map area.

The part which the Federal land grant to the New Orleans Pacific Railroad played in furthering this concentration of land ownership has been referred to on pages 135–136.

The total acreage of lands originally patented to this railroad was 1,001,017 acres. In the area of the map the lands patented to it are found to be 657,685 acres, and of this amount, 596,206 acres, or over 90 per cent, are now owned by various large timber owners and are platted to them on the map.

The history of the railroad-grant lands in this particular region of Louisiana is like that found in the other States where inquiry has been made, namely, large grants of timberland, so far as not retained in the original ownership, have usually been disposed of in very large blocks. This is a natural economic result. The Government's land-grant policy, if it contemplated the distribution of the public domain to small holders through the medium of the railroad grantees, has failed so far as the grants covered timberlands. So far as the grants covered agricultural lands there has no doubt been a much wider distribution.

The New Orleans Pacific Railroad was a road financed by Jay Gould. The Jay Gould estate, whose holdings are platted on the map in the first group of 14, owns 123,750 acres of timberland in the State, practically all on the map area. Of this, 93,529 acres consist of lands originally patented to the railroad company.

The following tabular statement shows in detail the amounts of land on this map area which were originally patented to that railroad and are now held by the timber owners of the three map groups. A relatively insignificant part is held in the form of timber rights.

TABLE 42.—PRESENT OWNERSHIP OF NEW ORLEANS PACIFIC RAILROAD CO. GRANT IN AREA OF LOUISIANA MAP.

Present holders.	Granted land held (in fee or by timber rights [1]) on map area.	Per cent of total grant in map area.
First group of platted holders:		
Calcasieu Pine Co. and Southland Lumber Co.	*Acres.* 133,903	
Jay Gould estate	93,529	
Louisiana Longleaf Lumber Co.	54,950	
J. F. Ball & Bro. Lumber Co.	45,065	
Frost-Johnson Lumber Co.	30,768	
Industrial Lumber Co	23,177	
Long-Bell Lumber Co. interests	17,987	
W. R. Pickering Lumber Co.	14,017	
Hackley-Hume Co. (Ltd.)	13,406	
Chicago Lumber & Coal Co. interests	11,667	
Grant Land & Lumber Co.	6,998	
Other members of first group	1,628	
Total, first group	447,115	68
Second group of platted holders:	*Acres.*	
J. P. Underwood	21,511	
Jas. A. Bentley interests	19,608	
Florian Giauque	14,641	
Big Pine Lumber Co.	9,208	
Sabine Lumber Co.	9,058	
Bowman-Hicks Lumber Co.	6,715	
D. C. Richardson-Taylor Lumber Co.	6,436	
Crowell & Spencer Lumber Co.	6,255	
J. J. Rupp et al.	3,392	
Other members of second group	20,963	
Total, second group	117,788	[illegible]
Third group of platted holders (various members)	31,303	[illegible]
Total accounted for	596,206	[illegible]
Unaccounted for	61,479	[illegible]
Total patented in map area under railroad grant	657,685	[illegible]

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[1] The figures in this column include 14,582 acres reported as timber rights as follows: First group, 2,5[illegible] acres; and second group, 12,042 acres. Besides, not distinguished lands aggregating about 15,000 acres in the first group and 2,000 acres in the second group may be timber rights. The following items may also include some timber rights: 1,628 acres for "other members of first group," 20,963 for "other members of second group," and 31,303 acres for the third group.

The first group of platted holders is found to hold in this map area 447,115 acres of land that the Government originally patented to the New Orleans Pacific, or 68 per cent of all the land patented to the railroad on this area. The 447,115 acres constitute over one-fourth of the total holdings of the group on the map area. The chief purchasers of railroad land here have been the Calcasieu Pine Co. and Southland Lumber Co.; the Louisiana Longleaf Lumber Co.; J. F. Ball & Bro. Lumber Co.; and the Frost-Johnson Lumber Co. Over half of the acreage of the Calcasieu Pine Co. and Southland Lumber Co. on this map area consists of the railroad lands. Over one-third of the holdings of the Louisiana Longleaf Lumber Co. was likewise originally part of the railroad grant. Three-fourths of the lands now owned in this area by J. F. Ball & Bro. Lumber Co. were similarly acquired, and nearly nine-tenths of those of the Frost-Johnson Lumber Co.

Members of the second group now hold railroad lands amounting to 117,788 acres in the map area, and members of the third group, 31,303 acres.

It should be noted that this railroad was not built till long after the time set by law for its completion; that the original grantee, after its charter had been repealed, attempted to assign the grant to the New Orleans Pacific; and that, in spite of efforts in Congress in the middle eighties to forfeit the grant, it was finally confirmed to the New Orleans Pacific in 1887. (See H. Repts. Nos. 678 and 1556, pts. 1 and 2, 48th Cong., 1st sess., vols. 3 and 6, 1884; also 24 Stat., 391.)

Section 7. Proportion of platted holdings on map area originally obtained from Government at private entry for $1.25 per acre.

Investigation was made covering the timbered part of the Louisiana map area to ascertain how important an influence the direct sales of land by the Government at private entry for $1.25 per acre (see Part I, pp. 256 to 258) have had in bringing about the present concentration of timber and land ownership in this area. For this purpose the records of the General Land Office were consulted and the location of land purchased from the Government under this law by each original purchaser of 1,000 acres or more was determined. The townships in the Red River Valley where there is no platting and the nontimbered townships in the southeastern part of the map were not covered. For the rest of the map area, however, a tabulation was made of all lands purchased under this law by each original purchaser of 1,000 acres or more.

It was found that 65 individuals or partnerships each purchased 1,000 acres or more of this land in the area described. The amount bought by them was approximately 1,021,000 acres. No less than

966,000 acres of this is now in the hands of the platted holders constituting 35 per cent of the entire acreage of platted timber owners on the Louisiana map. Three original purchasers, it appears, bought from the Government tracts of over 100,000 acres each. Eleven others purchased tracts ranging between 20,000 and 60,000 acres.

The table opposite shows the present holders of the cash-sale land originally purchased by the 65 large buyers. The original purchasers are arranged in the stub in order of size, and the lands of each original purchase are distributed to the present holders thereof. The present holders are arranged in the regular map-table groups. Their arrangement within the group is according to the amount of cash-sale land owned. Timber rights are included, but are insignificant in amount.

The table includes 75,000 acres of private-entry cash sales at $2.50 per acre—lands within the limits of the New Orleans-Pacific grant which by statute were doubled in price by virtue of the grant. It also includes 640 acres of graduated cash land, sold for less than $1.25 per acre under the graduation act of 1854 (10 Stat., 574), and over 20,000 acres of land obtained on scrip and warrants, which were accepted by the Government as equivalent to cash payment of $1.25 per acre,[1] the land being patented in the name of the individual presenting the scrip.

Table 43, it will be observed, lists a number of partnership purchases from the Government, as well as individual purchases. In some cases the same person appears as a separate purchaser and as one of a partnership. Thus, William M. Robinson purchased 4,000 acres individually, 24,160 acres with James D. Lacey, and 29,700 acres with E. F. Uhl and George K. Johnson.

In the list of original purchasers are a number of names that are important in the lumber world of to-day either in this particular region or elsewhere. H. J. Lutcher and G. B. Moore were original purchasers of a very large tract which is still retained by the interests with which they are identified. The names of certain other original purchasers—Charles H. Hackley, Jay Gould, A. G. Van Schaick, George Lock, and C. H. Moore—are represented in the present ownership of the lands bought by them from the Government.

Reference has already been made to the recent sale of the timber of the William Rice Institute (p. 141). This is a case revealing the startling increase in timber values since the Government parted with its timberlands for $1.25 per acre. It will be seen by the above table that William M. Rice purchased approximately 47,960 acres of land direct from the Government at $1.25 per acre. The purchase was in 1882. Practically all this very land (about 46,000 acres) was eventually given by Mr. Rice as endowment for the William Rice

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[1] See Part I, p. 258.

Original purchasers of 1,000 acres or more on map area (in order of size of purchase).	Total purchased on map area.	Ac												
			First group of platted holders.											
		Total accounted for.	Total.	Long-Bell Lumber Co. interests.	Lutcher & Moore interests.	Central Coal & Coke Co. interests.	Industrial Lumber Co.	Chicago Lumber & Coal Co. interests.	W. R. Pickering Lumber Co.	Calcasieu Pine Co. and Southland Lumber Co.	Hackley & Hume Co. (Ltd.).	Jay Gould estate.	Grant Land & Lumber Co.	Kirb Lumb Co. i terest
	Acres.	*Acres.*	*Acres.*	*Acres.*	*Acres.*	*Acres.*	*Acres.*	*Acres.*	*Acres.*	*Acres.*	*Acres.*	*Acres.*	*Acres.*	*Acre*
Total	1,021,430	966,720	698,910	203,600	120,800	70,390	58,320	54,960	47,880	46,760	[9] 37,100	29,880	10,080	7,
Nathan B. Bradley	111,240	109,000	85,000	85,480		120								
H. J. Lutcher and G. B. Moore [4] [5]	110,080	108,920	108,640		108,560		80							
Franklin H. Head [4]	104,800	104,240	98,000	39,240			34,960	6,400	17,300					
N. K. Fairbanks	56,360	55,920	54,560					34,560	19,920			80		
William M. Rice	47,960	47,390												
Charles H. Hackley	46,000	46,000	45,640					8,280	4,960		[9] 32,400			
Augustus C. Brown [6]	42,880	42,760	40,280							38,360	1,920			
Charles C. Comstock	32,480	32,120	120	40	80									
E. F. Uhl, George K. Johnson, and William M. Robinson	29,760	29,520	27,680	13,200		14,480								
Jay Gould	26,880	26,800	26,800									26,800		
T. W. Harvey and N. K. Fairbanks	26,440	26,200	26,200		40	26,120			40					
William M. Robinson and James D. Lacey	24,160	23,760	23,040	10,280		12,760								
A. G. Van Schaick and A. A. Carpenter [6]	24,040	21,200	11,160	80								3,000	5,800	
John L. Woods	20,080	20,080	15,160		9,400	5,560								
George E. Wasey	18,640	18,120	18,120	8,760			3,360							5,
Henry Lamport	18,640	17,160	880			480	400							
Robert H. Nason	18,200	17,600	17,600	12,080		120		5,360						
Samuel R. Prentiss	18,040	16,640												
Thomas Birkett and William McPherson, jr. [4]	18,470	18,390	18,310	3,680		14,630								
John F. Eddy [6]	16,040	9,520	1,120	1,080										
Alexander Thomson and Seaman A. Knapp	15,800	5,720												
Charles Winchester	14,760	14,520												
E. F. and E. A. Brackenridge	13,000	12,200	1,040	480			560							
W. C. and W. V. Penoyer	12,760	12,760	12,760	12,760										
George W. Gay	12,600	12,560	12,560				7,680		4,880					
Henry and Bertram Beer	9,320	8,680												
George L. W. Pack and John L. Woods	9,120	9,080	2,720		2,640				80					
Seaman L. Culver	9,000	8,960	40		40									
Henry Beer [6]	8,800	8,360	4,320	1,920										
James L. Bradford [4] [5]	7,760	2,680	400				400							
Ezra P. Barnard	7,560	7,560	5,700	5,700										
Seaman A. Knapp	7,040	400	160				160							
George C. Avery [6]	6,800	6,800	6,800							6,800				
Henry W. King	5,520	5,520	5,520				4,960		560					
Melvin R. Gay	5,000	5,000	5,000	5,000										
William M. Robinson	4,640	4,640	1,240	160		1,080								
Nathan P. Dodge, trustee	4,600	4,440	4,440							1,600	2,840			
George Leck	4,400	3,920												
William Hake and William Coach	4,320	4,320	4,320										4,280	
T. W. English and H. C. Drew	4,160	4,100												
Eben F. Wasey	3,760	2,200	2,200				240							1,
A. J. Perkins and C. H. Moore	3,280	3,240												
Jeremiah H. Murphy and William W. Grant	2,440	2,440												
George Horridge	2,400	640	640				640							
Samuel M. Stephenson	2,240	2,240												
John Burnett [4]	2,240	2,080												
Charles C. Bloomfield	2,120	1,840	1,840				1,840							
G. B. Miller and D. Tha. Ayers	1,960	1,760	1,760		40		1,720							
Edwin C. Walker	1,680	680												
S. H. Clement	1,640	840												
Washington S. and Charles H. Green	1,640	1,640												
E. Crofton Fox	1,600	1,600	1,600	1,400		40		160						
A. J. Perkins [4]	1,560	1,120												

IN AREA OF LOUISIANA MAP SOLD BY THE GOVERNMENT AT $1.25 PER ACRE,[1] AND PRESENT HOLDERS THEREOF.

Present holders.																		
Accounted for.																		
s.						Second group of platted holders.												
den Co. uth- um- Co.	Hackley & Hume Co. (Ltd.).	Jay Gould estate.	Grant Land & Lumber Co.	Kirby Lumber Co. interests.	Other holders in group.	Total.	Luddington, Wells & Van Schaick.	Edgewood Land & Logging Co. and Lock, Moore & Co. (Ltd.).	William Rice Institute.	Bowman-Hicks Lumber Co.	Sabine Tram Co.	Krause & Managan Lumber Co. (Ltd.).	Nona Mills Co. (Ltd.).	J. A. Bel Lumber Co. (Ltd.).	James A. Bentley interests.	Other holders in group.	Third group of 25 platted holders.	Unaccounted for.
s.	*Acres.*	*Acres.*	*Acres.*	*Acres.*	*Acres.*	*Acres.*	*Acres.*	*Acres.*	*Acres.*	*Acres*	*Acres.*	*Acres.*	*Acres.*	*Acres.*	*Acres.*	*Acres.*	*Acres.*	*Acres.*
,700	[3] 37,160	29,880	10,080	7,920	5,160	240,690	54,440	53,200	46,290	21,240	16,080	12,820	11,680	10,600	8,120	6,160	27,120	[3] 54,710
						23,280		21,060						1,400		820	120	2,340
						280		280										1,160
					40												6,240	560
		80				1,360							1,360					440
						47,390		1,100	46,290									570
	[3] 32,400																360	
,360	1,920					2,480							2,480					120
						32,000	32,000											360
																	1,840	240
		26,800																80
																		240
						320						320					400	400
		3,000	5,800		2,280	10,000	9,720								280		40	2,840
					200	4,920				4,600						320		
				5,960	40													520
						9,480						6,960	960	1,480		80	6,800	1,480
					40													600
						16,640				16,640								1,400
						80						80						80
					40	8,000									7,840	160	400	[3] 6,530
						1,520						300		700		520	4,200	10,080
						14,520	9,040				5,480							240
						11,080		7,560				120		3,400			80	800
																		40
						8,680		8,680										840
						6,360							6,360					40
						8,920		360			8,560							40
					2,400	3,560	3,040						520				480	440
						1,920		440				720		760			360	3,080
						1,800		40						1,760				
						240						120		80		40		6,640
,800																		
						3,120	640					2,480					280	
,600	2,840																	100
						3,600		3,600									320	480
			4,280		40													
						4,100		4,000								100		80
				1,960														1,560
						3,240		3,120				120						40
						2,440								520		1,920		
																		1,700
						2,240		200			2,040							
																	2,080	100
																		280
																		200
						500								500			120	1,000
						100						100					680	800
						1,640		1,640										

H. J. Luscher and G. B. Moore [4] [6]	110,080	108,920	108,640		108,560		80							
Franklin H. Head [4]	104,800	104,240	98,000	39,240			34,980	6,400	17,360					
N. K. Fairbanks	56,360	55,920	54,560					34,560	19,920			80		
William M. Rice	47,960	47,390												
Charles H. Hackley	46,000	46,000	45,640					8,280	4,960		[3] 32,400			
Augustus C. Brown [6]	42,880	42,760	40,280							38,360	1,920			
Charles C. Comstock	32,480	32,120	120	40	80									
E. F. Uhl, George K. Johnson, and William M. Robinson	29,700	29,520	27,680	13,200		14,490								
Jay Gould	26,880	26,800	26,800									26,800		
T. W. Harvey and N. K. Fairbanks	26,440	26,200	26,200		40	20,120			40					
William M. Robinson and James D. Lacey	24,160	23,760	23,040	10,280		12,760								
A. G. Van Schaick and A. A. Carpenter [6]	24,040	21,200	11,160	80								3,000	5,800	
John L. Woods	20,080	20,080	15,160		9,400	5,560								
George E. Wasey	18,640	18,120	18,120	8,760			3,360							8,
Henry Lampert	18,640	17,160	880			480	400							
Robert H. Nason	18,200	17,600	17,600	12,080		120		5,360						
Samuel R. Prentiss	18,040	16,640												
Thomas Birkett and William McPherson, jr. [4]	18,470	18,390	18,310	3,680		14,630								
John F. Eddy [6]	16,040	9,520	1,120	1,080										
Alexander Thomson and Seaman A. Knapp	15,800	5,720												
Charles Winchester	14,700	14,520												
E. F. and E. A. Brackenridge	13,000	12,200	1,040	480			560							
W. C. and W. V. Penoyer	12,700	12,700	12,700	12,700										
George W. Gay	12,600	12,560	12,560				7,680		4,880					
Henry and Bertram Beer	9,320	8,680												
George L. W. Pack and John L. Woods	9,120	9,080	2,720		2,640				80					
Seaman L. Culver	9,000	8,960	40		40									
Henry Beer [6]	8,800	8,360	4,320	1,920										
James L. Bradford [4] [6]	7,760	2,680	400				400							
Ezra P. Barnard	7,560	7,560	5,760	5,760										
Seaman A. Knapp	7,040	400	160				160							
George C. Avery [6]	6,800	6,800	6,800							6,800				
Henry W. King	5,520	5,520	5,520				4,960		560					
Melvin R. Gay	5,000	5,000	5,000	5,000										
William M. Robinson	4,640	4,640	1,240	160		1,080								
Nathan P. Dodge, trustee	4,600	4,440	4,440							1,600	2,840			
George Look	4,400	3,920												
William Hake and William Coach	4,320	4,320	4,320											
T. W. English and H. C. Drew	4,160	4,100											4,280	
Eben F. Wasey	3,760	2,200	2,200				240							1,
A. J. Perkins and C. H. Moore	3,280	3,240												
Jeremiah H. Murphy and William W. Grant	2,440	2,440												
George Horridge	2,400	640	640				640							
Samuel M. Stephenson	2,240	2,240												
John Burnett [4]	2,240	2,080												
Charles C. Bloomfield	2,120	1,840	1,840				1,840							
G. B. Miller and D. Tho. Ayers	1,960	1,700	1,760		40		1,720							
Edwin C. Walker	1,680	680												
S. H. Clement	1,640	840												
Washington S. and Charles H. Green	1,640	1,640												
E. Crofton Fox	1,600	1,600	1,600	1,400		40		160						
A. J. Perkins [4]	1,560	1,120												
Peter T. and Thomas J. Hickman	1,520	80	80											
John Brogan and Charles M. Green [6]	1,480	1,400												
John and Daniel McKnight	1,320	1,320	1,320				1,320							
John Compton [7]	1,320	800												
William and Daniel Moran	1,280	1,280												
E. A. Brackenridge	1,280	1,280	1,280	1,280										
William Waters [7]	1,280	1,000												
Francois Gaimnis	1,120													
John Caldwell	1,080	680	280					200	80					
Charlie Barbe	1,040	1,000												
Frederick Alway	1,000	1,000	1,000			1,000								
E. F. Brackenridge	1,000	1,000	920	920										

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[1] Including 75,040 acres of lands within railroad grant limits raised to $2.50 per acre when limits were established, and 640 acres of graduated cash land purchased for less than $1.25 pe

[2] Of this, 24,200 acres were recently sold to the Central Coal & Coke Co.

[3] According to recent information, 4,600 acres of this are held by Jay Gould estate.

[4] Purchase includes scrip land at $1.25 per acre.

																	[illegible]	[illegible]
		80				1,360							1,360					[illegible]
						47,380		1,100	46,290									570
	[8] 32,400																200	
,360	1,920					2,480							2,480					120
						32,000	32,000											300
																	1,840	240
		26,800																80
																		240
						320						320					400	460
		3,000	5,800		2,280	10,000	9,720								280		40	2,840
					200	4,920				4,600						320		
				5,980	40													520
						9,480						6,900	960	1,480		80	6,800	1,480
					40													600
						16,640				16,640								1,400
						80						80						80
					40	8,000									7,840	160	400	[8] 6,520
						1,520						300		700		520	4,200	10,080
						14,520	9,040				5,480							240
						11,080		7,560				120		3,400			80	800
																		40
						8,680		8,680										640
						6,360							6,360					40
						8,920		360			8,560							40
					2,400	3,560	3,040						520				480	440
						1,920		440				720		700			360	5,080
						1,800		40						1,760				
						240						120		80		40		6,640
,800																		
						3,120	640					2,480					280	
,600	2,840																	160
						3,600		3,600									320	480
			4,280		40													
						4,100		4,000								100		80
				1,960														1,560
						3,240		3,120				120						40
						2,440								520		1,920		
																		1,700
						2,240		200			2,040							
																	2,080	160
																		280
																		200
						560								560			120	1,000
						160						160					680	800
						1,640		1,640										
						1,120		1,120										440
					80													1,440
						1,400										1,400		80
						800										800		520
						1,280						1,280						
																	1,000	280
																		1,120
																	400	400
						80						80					920	40
						80						80						

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raduated cash land purchased for less than $1.25 per acre.

[5] Purchase includes warrant lands at $1.25 per acre.

[6] Purchase includes land at $2.50 per acre.

[7] Purchase includes graduated cash land at less than $1.25 per acre.

Institute, of Houston, Tex. The recent sale by the trustees to the American Lumber Co. covered the timber on 49,000 acres, and included the timber on the identical 46,000 acres that were bought at $1.25 per acre direct from the Government. Most of the remainder of the tract was originally part of the grant to the State of Louisiana. The consideration received by the William Rice Institute for the transfer of the timber rights on the 49,000 acres (with 20 years in which to cut) was about $5,000,000. Therefore, the price in 1911 for timber exclusive of land was somewhere near $100 per acre. This is an apparent increase of about 80 fold (8,000 per cent) in less than 30 years.

Another sale of which the Bureau has information occurred in 1909. It involved about 19,000 acres and the price received was $1,125,000, or about $60 per acre. The greater part of this tract (about 15,400 acres) was originally obtained from the Government, mostly in 1881 or 1882, by private entry, at $1.25 per acre, which would make the cost of this part $19,250. The remainder was originally granted to the State of Louisiana (about 2,800 acres) or taken up by homesteaders (about 800 acres). The first cost of the entire 19,000 acres was probably not over $25,000.

Incidentally, it may be stated that the timber holding of another company in this region presents a still more remarkable instance of increase in value of timber and land, though the case was not one of a cash purchase direct from the Government. The company was organized in 1898 and the Bureau is authoritatively informed that a certain stockholder, owning about one-fourth of the capital stock paid in cash for his stock $59,600; he has received cash dividends of $171,864 and in addition the present value of his stock (based on the estimated undivided profits of the company) is $1,060,000. By far the greater part of the company's profits are stated to have been derived from the increase in value of timber and land. The most striking fact about this increase is that it has come about in less than 14 years.

OTHER FORMS OF GRANT AND ENTRY.—The foregoing sections have discussed the railroad lands and private-entry lands in the Louisiana map area, showing that a very large proportion of lands of these classes have come into the hands of the present large timber owners. It may also be said in general that in this area large amounts of land originally patented to the State are now held by the timber holders reported to the Bureau. As already mentioned there are considerable areas of old private grants made before Louisiana was acquired by the United States. Some of these, distinguishable by their irregular outlines, may be seen on the map, platted to timber holders. Other forms of entry common in this region were homestead, and timber and stone; but the Bureau has not determined how far lands taken by these classes of entry are now owned by large timber holders.

Section 8. Total timber strength in Louisiana and in the Southern Pine Region of 27 of the holders platted on Louisiana map.

As stated on page 140, no holders were selected for inclusion in the group of 14 platted holders on the Louisiana map except those owning over a billion feet of timber in the Southern Pine Region, and for the group of 25 platted holders the selection was also on the basis of the amount of timber owned in the South. The purpose of this section is to show the total amount of timberland and timber owned in Louisiana and in the Southern Pine Region by the 14 holders platted in the first group, and by 13 out of 25 in the second group, the 13 being those members of the second group who own over 500 million feet each in the South. The 13 holders picked from the group of 25 have on the map area about three-fourths of the timber which the entire group has on the map area (6.2 billion feet out of a total of 8.4 billion feet). In the Southern Pine Region, they have together about five-sevenths of the amount owned by all 25 (10.2 billion feet out of a total for the 25 of 14.2 billion feet).

It is to be understood that in some cases the holdings here shown as owned in Louisiana and in the Southern Pine Region are not owned by the same holders of record as own the holdings on the map area, but are owned by other holders of record who are combined in the same interest.

The first table (Table 44) states the timbered acreage, and the second table (Table 45) states the timber by species of the same holders. The timber of any entry in Table 45 stands on the timbered acreage of the corresponding entry in Table 44. The two tables will be discussed together. In a separate table the additional acreage of the same holders will be shown for the same regions.

The timber is shown by species. In the columns of the table headed "On map area" and "Outside map area," however, certain entries are made of timber "not divisible" by species. As already suggested on page 139, it was impossible accurately to divide by species the timber of some holdings in parishes partly on the map area and partly off it, since the reports for some companies gave an estimate of the amount owned by the company in the entire parish instead of showing it by townships. Thus, 3 billion feet of timber on the map area owned by the first group could not be classified by species, nor 1.7 billion feet owned by them outside the map area. In the total column for Louisiana and in the column for the Southern Pine Region, all the timber is, of course, divided into species. Hence, while the total for the first group on the map area (21.8) plus that off the map area (10.8) cross adds to their total in the State (32.6), yet the longleaf pine shown as on the map (18.4) plus the longleaf off the map (3.0) does *not* cross add to their total longleaf in the

State (24.0). The reason is that part of the longleaf timber on and off the map area is included in the "not divisible" timber.

TABLE 44.—ACREAGE[1] OF TIMBER OWNED IN LOUISIANA AND IN SOUTHERN PINE REGION BY 27 OF THE HOLDERS PLATTED ON LOUISIANA MAP, BY GROUPS.

Holders platted on Louisiana map.	Number of holders.	In Louisiana.			In Southern Pine Region.
		Total.	On map area.	Outside map area.	
		Acres.	*Acres.*	*Acres.*	*Acres.*
First group of platted holders	14	2,549,021	1,453,147	1,095,874	4,525,902
13 out of second group of platted holders	13	544,742	425,968	118,774	951,646
Total, 27 holders	27	3,093,763	1,879,115	1,214,648	5,477,548

[1] Including 1,402,393 acres reported as timber rights as follows: The first group, on the map, 84,880 acres; off the map, 322,995 acres; and in the Southern Pine Region, 1,328,553 acres. The 13 holders of the second group, on the map, 20,440 acres; off the map, 19,074 acres; and in the Southern Pine Region, 73,840 acres.

TABLE 45.—TIMBER OWNED IN LOUISIANA AND IN SOUTHERN PINE REGION BY 27 OF THE HOLDERS PLATTED ON LOUISIANA MAP, BY GROUPS AND BY SPECIES.

[In billions of board feet. Thus, 24.0—24,000,000,000 board feet.]

Holders platted on Louisiana map.	Number of holders.	Species.	In Louisiana.[1]			In Southern Pine Region.
			Total.	On map area.	Outside map area.	
First group of platted holders	14	Longleaf pine	24.0	18.4	3.0	35.9
		Shortleaf pine	5.2	.1	3.8	9.9
		Cypress	1.3	....	1.3	1.3
		Hardwoods	2.1	.3	1.0	2.8
		Not divisible	....	3.0	1.7	....
		Total	32.6	21.8	10.8	49.9
13 out of second group of platted holders	13	Longleaf pine	6.2	5.7	.2	7.0
		Shortleaf pine	.5	....	.4	2.0
		Cypress	....	....	....	.1
		Hardwoods	.7	.3	.4	1.1
		Not divisible	....	.2	.2	....
		Total	7.4	6.2	1.2	10.2
Total, 27 holders	27	Longleaf pine	30.2	24.1	3.2	42.9
		Shortleaf pine	5.7	.1	4.2	11.9
		Cypress	1.3	....	1.3	1.4
		Hardwoods	2.8	.6	1.4	3.9
		Not divisible	....	3.2	1.9	....
		Total	40.0	28.0	12.0	60.1

[1] Though the timber of these holders in the State as a whole is divisible into species, their timber on the map area and outside the map area can only partly be segregated by species, and part of the timber in these columns is therefore noted as "not divisible." Consequently the items for species (so far as divisible) on the map area and outside the map area usually do not cross add to the total for that species in the State, but the figures for the total timber do cross add.

Group of 14 platted holders.—The above tables show the total holdings in the State for the 14 holders of the first group to be 2,549,021 acres of merchantable-timber land (including 407,875 acres of timber rights) and 32.6 billion feet of timber. As Table 40 has already shown, 21.8 billion feet of this timber and 1,453,147 acres of timberland are located on the area of the ownership map in west central Louisiana. The amount held by them in the State of Louisiana outside the selected map area is 1,095,874 acres of timberland and 10.8 billion feet of timber.

In the Southern Pine Region as a whole the same 14 holders have 4,525,902 acres of timberland (including 1,328,553 acres of timber rights) and 49.9 billion feet of timber.

Not only is this a marked concentration of the ownership of timber, but the timber owned by this group is very largely of the more valuable species. Thus, in Louisiana their total of longleaf, shortleaf, and cypress—all valuable—amounts to 30.5 billion feet out of 32.6 billion. Their hardwoods amount to only 2.1 billion feet, or 6 per cent, against 94 per cent of pine and cypress. Of the total timber in the State of Louisiana the longleaf and shortleaf pines and the cypress constitute only 69.6 per cent, while the hardwoods constitute 30.4 per cent. It is thus seen that the 14 holders here have a much higher proportion of valuable species in their timber than obtains in the timber of the State as a whole.

In the Southern Pine Region, out of 49.9 billion feet of timber owned by the 14, there are 47.1 billion feet of pine and cypress and only 2.8 billion feet of hardwoods. This again is about 94 per cent of pine and cypress against 6 per cent of hardwoods. Taking the entire timber of the Southern Pine Region, however, (Part I, p. 76) the hardwoods amount to not less than 33 per cent, and the pine and cypress to only 67 per cent. In other words, these 14 holders of over a billion feet each have far more than a proportional share of the more valuable species.

This is a natural condition because those assembling large timber holdings naturally seek the more valuable species. Furthermore, the fact that the ownership is thus concentrated increases the value of the holdings.

At the rate of annual consumption in 1909, these 14 holders alone with their 46 billion feet of longleaf and shortleaf could supply the whole market for southern yellow pine for nearly three years.

Thirteen out of the group of 25 platted holders.—The above tables show that 13 out of the second group of platted holders have a total timber holding in Louisiana of 544,742 acres of timberland (including 39,514 acres of timber rights) and 7.4 billion feet of timber. Of this, 425,968 acres and 6.2 billion feet of timber are on the map area, and 118,774 acres and 1.2 billion feet of timber are off the map area.

In the Southern Pine Region as a whole the 13 members of this group of 25 platted holders have a total of 951,646 acres of timberland, on which stand 10.2 billion feet of timber. The amount of timber owned by them outside the State of Louisiana, therefore, is only 2.8 billion feet.

Summary.—The grand totals of the above tables show that the 27 holders under consideration in the State of Louisiana have 40 billion feet of timber on 3,093,763 acres. Of this holding in the State, 28 billion feet are on the map area and 12 billion feet are outside that area. In the Southern Pine Region as a whole these 27 holders have 60.1 billion feet of timber on 5,477,548 acres.

Of their 60 billion feet it will be observed that longleaf pine comprises practically 43 billion feet; shortleaf pine, practically 12 billion; and cypress, not quite one and a half billion. The total of these valuable species owned by the 27 is over 56 billion feet, leaving about 4 billion feet only in hardwoods. That is, between 93 and 94 per cent of their timber is of high stumpage value, while only 6 or 7 per cent consists of the less valuable hardwoods.

Certain of these holders also have 4 or 5 billion feet of timber in the Pacific-Northwest. This figure, of course, does not include the Southern Pacific Co.'s holdings.

Section 9. Total land strength (including timber rights) in Louisiana and in Southern Pine Region of 27 of the holders platted on Louisiana map.

This section states the additional and total acreage of the same 27 holders whose timbered acreage and timber in Louisiana and the Southern Pine Region are discussed in the foregoing section. The table which follows, repeating from Table 44 the merchantable-timber acreage of these holders with their timber rights, shows besides, their additional land—mostly cut-over—and their total acreage.

A large proportion of their merchantable-timber land in the Southern Pine Region is held in the form of timber rights. Out of their total of 5,477,548 acres of merchantable-timber land, no less than 1,402,393 acres, or one-fourth, is timber rights. So far as the fee of these lands is in the hands of small holders, the monopolistic effect of the large holdings is lessened; so far, on the other hand, as the fee is owned by equally large investors, it is not lessened. Of their 1,402,393 acres of timber rights, 690,000 acres are held by the Kirby Lumber Co. on lands the fee of which is owned by the Houston Oil Co. It is likely that other considerable holdings of timber rights are owned in fee by large land holders. The Bureau's investigation, however, did not extend to the matter of the fee ownership underlying the timber rights reported, and consequently no definite statement can be made on this point.

TABLE 46.—ACREAGE OF TIMBER (INCLUDING TIMBER RIGHTS) AND ADDITIONAL LAND OWNED IN LOUISIANA AND IN SOUTHERN PINE REGION BY 27 OF THE HOLDERS PLATTED ON LOUISIANA MAP, BY GROUPS.

[Not all members of a group own additional land. The number of those owning such land is shown for each group, parenthetically in italics, in the additional land column.]

Holders.	In State of Louisiana.				
	Merchantable-timber acreage.			Additional land reported.	Total.
	Fee.	Timber rights.	Total.		
	Acres.	*Acres.*	*Acres.*	*Acres.*	*Acres.*
First group, 14 platted holders	2,141,146	407,875	2,549,021	(*10*) 373,038	2,922,0[illegible]
13 out of second group of 25 platted holders	505,228	39,514	544,742	(*6*) 71,453	616,1[illegible]
Total, 27 holders	2,646,374	447,389	3,093,763	(*16*) 444,491	3,538,2[illegible]

Holders.	In Southern Pine Region.				
	Merchantable-timber acreage.			Additional land reported.	Total.
	Fee.	Timber rights.	Total.		
	Acres.	*Acres.*	*Acres.*	*Acres.*	*Acres.*
First group, 14 platted holders	3,197,[illegible]	1,[illegible]28,553	4,525,902	(*10*) 500,031	5,025,9[illegible]
13 out of second group of 25 platted holders	877,806	73,[illegible]	951,646	(*7*) 105,203	1,056,8[illegible]
Total, 27 holders	4,075,155	1,402,393	5,477,548	(*17*) 605,234	6,082,78[illegible]

Section 5 has discussed the concentration of land ownership existing on the map area. In the entire State of Louisiana, the first group has a total of 2,514,184 acres in fee, and in the Southern Pine Region, 3,697,380 acres.[1] This is an average fee holding, in the Southern Pine Region, for these 14, of over 260,000 acres to the holder. The 13 holders selected from the second group of 25 platted holders have a total fee acreage in the State of 576,681 acres, and in the Southern Pine Region a total of 983,009 acres. Taken together, the 27 holders have in the State a total fee acreage of 3,090,865 acres, and in the Southern Pine Region as a whole, 4,680,389 acres. Of this amount, 605,234 acres are "additional" land counted as not bearing merchantable timber. The total fee holding of the 27 averages nearly 175,000 acres.

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[1] Made up of the fee timberland and of the additional land, the additional land being all fee.

Part III.—LAND HOLDINGS OF LARGE TIMBER OWNERS.

CHAPTER I.

INTRODUCTION.

Section 1. Reason for publication of material.

Parts I and II of this Report have indicated that the acquisition of large bodies of timber by a comparatively few holders has incidentally resulted in a great concentration of the ownership of land. Part III takes up more fully this aspect of the subject. Concentration of land ownership may come to have even more serious and lasting effects upon the economic, social, and political life of the country than does the control of the timber. The land data obtained by the Bureau are not sufficiently full for a comprehensive study of the land problem as a whole. They cover only one class of owners, namely, the timbermen, and this class is covered only in those regions of the country that are most important for timber. It is believed, however, that the publication of such information as was obtained will serve a useful purpose; so far as it goes, it shows an important degree of concentration, and emphasizes concretely the need of further and more comprehensive inquiry as to conditions and tendencies of land ownership in the United States.

Section 2. Caution against undue inferences from material in this Part.

Though the concentration of the ownership of land by timber owners is extremely important, yet it would be an error to consider the concentration of land ownership among this particular class of holders as typical of the concentration of land holdings of all kinds throughout the country generally. The ownership of land by other classes of holders was not investigated. Concentration of ownership in farming communities, of course, would be found to be by no means so great as in timber regions. The present discussion has, therefore, only a limited bearing on the general question.

The ownership or control of a considerable amount of timber is necessary to insure a mill of the most economical capacity a sufficient supply for its life. Lumbermen would hesitate to put up a large thoroughly equipped mill unless they had or could secure enough timber tributary to it to last 15 or 20 years. Where the stand of timber is comparatively light, this is likely to involve a holding of several thousand acres. On this account holdings ranging from 5,000 or 10,000 up to 30,000 or 40,000 acres, depending on the stand per acre, may be regarded as normal in the case of timberland; but in the case of farm land, if a tract of equal size were held in a single ownership, the fact would at once excite attention. In other words, under the conditions that prevail, small holdings are normal in agriculture, and relatively large holdings are normal in lumbering.

The essential point to bear in mind in a consideration of the concentration of land ownership is the extent to which concentration exists above the size of holding necessary for the most efficient and economical use of land of a given character. From this point of view, a lower degree of concentration in the ownership of farm land, for example, might be more significant than a higher degree in the case of grazing or timberland.

Section 3. Importance of concentrated land ownership by timber holders.

The fact that what may be called the normal requirement in size of holdings is much greater for lumbering operations than for farming does not lessen the significance or danger of the concentrated ownership of land by timber owners. Nor does this relatively large normal requirement by any means suffice to explain the existing concentration of land ownership shown by the timber investigation. The investigation reveals a marked tendency toward the speculative acquisition and holding of timberlands enormously in excess of the amount needed to protect the economical operation of mills. It should be said, however, that the prime motive was to acquire timber, and the acquisition of the land was usually incidental.

There will ultimately be two entirely distinct phases to this matter of great land holdings by timber holders: (1) The first relates to that part of their land holdings which will be permanently devoted to growing timber—the natural forest land that will be more valuable for timber crops than for agriculture. The control of these great bodies of land which, with the present national forests, will furnish the timber supply of the future, forms one problem. It is the same problem that lies at the root of the discussion in Part I and Part II of this Report. Similar to the problem of the lands that will be permanently valuable for timber is the problem of those that have valuable deposits of ore, oil, gas, or other mineral wealth; striking examples being the iron ore in the Lake States and the petroleum in Texas, discovered on lands originally acquired for their timber. (2) The control of that part of the land holdings of timber holders that is now or will eventually be suitable for agriculture forms a different problem. If ownership of it is indefinitely retained, a system of tenant farming, or direct farming will develop; if it is held idle for a long period under a low tax rate, the effect will be to make the price of cultivable land in general more dear than need be. Only if it is sold to small holders who will till it, will the problem be rightly solved. To-day, some of this land is being leased, some held, and some sold; the important thing is to ascertain what the main tendency is.

The Bureau has no adequate data as to what proportion of the merchantable-timber land of large timber owners will ultimately be suitable only for reforestation or what proportion will be suitable for agriculture.[1] Nor has it such data as to their land not now bearing merchantable timber. In general, however, it may be said that a considerable part—possibly the greater part—of the present large timber holdings in the Pacific-Northwest consists of lands unsuited for agriculture. Excepting such as may prove to have mineral wealth, their chief value when cut will be for grazing and reforestation. For example, it has been roughly estimated by well-informed timbermen that the immense areas of timberland held by the Amalgamated Copper Co. interests in western Montana are from 80 per cent to 90 per cent natural forest land, i. e., more valuable for growing trees than for agricultural purposes. Again, 60 per cent of that part of the State of Washington that lies west of the Cascade Mountains is estimated by a well-informed timberman to be natural forest land. On the Pacific coast, where the rate of timber growth is rapid and where much of the land is rough and ill suited to other uses, immense tracts of natural forest land now in the hands of a few holders may be retained and managed with a view to a perpetual supply of timber and a perpetual control of that supply. It should be noted, however, that the area of the national forests is capable of developing a far heavier stand of timber, under a wise policy, than it now carrries; so that the future relation between the publicly owned and privately owned supply of timber may be very different from what it now is.

On the other hand, the large area of agricultural land held by timber owners in the Pacific-Northwest—that which is now ready for cultivation and that which will be agricultural when the timber is cut—will undoubtedly bear an important relation to the rural development of that region, and will prove to be an important asset for the timbermen. Timbermen in the Pacific-Northwest say that until the last six or eight years timberland was usually bought and sold with sole reference to the amount and quality of the timber. The land itself, in other words, was considered of no value. Yet many of them now emphasize the great value such lands will have for fruit raising, agriculture, grazing, etc.

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[1] Only a scientific examination of the land itself would determine these questions even for the present time, and it could scarcely be relied on as definitive of future possibilities.

In a large part of the Southern Pine Region and the Lake States, also, the denuded timberlands will prove valuable for agricultural uses. Already some of these lands are being sold or used for general farming, for cotton, fruit, trucking, etc., and there are several instances where large holders of cut-over lands are making careful experiments to determine the best uses to which they can be put. In general, most of the cut-over areas of the South and the Lake States, except such as are mountainous, will eventually prove susceptible of profitable cultivation. There are large areas of swamplands in these regions but drainage is generally practicable, and will make them among the most valuable for agricultural purposes. In fact, considerable areas of such lands have already been, or are now being, drained in several States.

If the present timberlands of large holders are kept uncut for many years till the scarcity value of timber becomes such that it can be cut at the maximum profit, it is probable that the arable portion will then have a high value for agriculture. With the increasing demand for foodstuffs, the timber owners may then continue to hold their arable cut-over lands for considerable periods of time in hope of securing the speculative increase in their value; in which case the settler who wishes to cultivate them will be compelled to pay a relatively high price.

The immense areas of land owned by relatively few large timber holders are, therefore, significant. They indicate problems of continued concentration of control of the timber supply, and, in less degree, concentrated ownership of agricultural land in large sections of the country. This is a particular aspect of the fundamental problem of the distribution of wealth.

Section 4. Outline of material in this Part.

The subject of concentration in the ownership of land was briefly referred to in the Summary of Part I (p. 28). In Chapter IV of Part I the merchantable-timber acreage held by large timber owners, and the additional fee lands owned by them, were stated in tables. Those tables, however, did not go to the question of the concentration of land ownership per se, for timber rights as well as fee lands were included without distinction, and the holders were grouped on the basis of the amount of timber owned. In the present Part, the subject of the ownership of land as such by large timber holders is particularly emphasized.

The tables in Chapter II show the amount of land owned in fee in the entire investigation area by the 1,802 holders reported to the Bureau as owners of over 60 million feet of timber each. The grouping of holders is on the basis of the amount of fee land owned (including both fee land bearing merchantable timber and fee land not bearing merchantable timber). The tables also show the amount of timber rights held by the same owners, and the amount of their land not distinguished in the reports as fee or timber rights.

Chapter III shows the concentration of land ownership among timber holders in the Upper Peninsula of Michigan, with special reference to the effect of the land policy of the Government and the State. Chapter IV shows in a similar way the land situation in Florida. The discussion relating to the Upper Peninsula of Michigan is accompanied by a map showing the land owned by 32 large timber holders.

CHAPTER II.

LAND OWNED IN INVESTIGATION AREA BY LARGE TIMBER OWNERS.

Section 1. Introductory.

The definition of a large timber holder as used in this Part is one who owns 60 million feet, or more, of timber. There are 1,802 such holders reported to the Bureau in the investigation area. The material here presented was mainly gathered during the field work of the timber investigation which was from 1907 to the early part of 1910. The tables and general discussion are therefore of that period, except where other dates are specified.

Title to merchantable timber is commonly held under one of two forms of tenure. It either is held in fee—that is, the timber holder owns both the timber and the land on which it stands—or is held under lease; that is, the timber holder does not own the land, but merely has purchased from the landowner the right to remove the timber within a specified period of years. When a holder thus owns the timber without ownership of the land on which it stands, he is said to have "timber rights" on the land, or to have a "timber lease," or a "timber deed." After he cuts off the timber and the lease expires, his interest ceases.

While the Bureau's timber investigation concerned primarily the amount and ownership of timber, information was also obtained as to the acreage on which the timber stood, usually distinguishing timber lands held in fee from those held under timber lease. Incidentally, information was secured from most of the large timber owners as to the amount of fee land not bearing merchantable timber they owned in the timber regions investigated; for example, young growth not yet fit for cutting, denuded land, prairie, etc.

Section 2. Difference between present acreage tables and those in Chapter IV of Part I.

In the timber tables of Chapter III of Part I of this Report the 1,802 holders of over 60 million feet each were grouped in 10 groups on the basis of timber owned, and all the unenumerated holders each owning less than 60 million feet of timber formed a separate group. In the acreage tables of Chapter IV of Part I the holders were grouped on the basis of the amount of timber owned, not on the amount of acreage owned. The merchantable-timber acreage owned in the investigation area by the 1,802 holders included fee land, timber rights, and land not distinguished as to tenure. There was also a statement, for the 1,802 holders, showing the amount of their fee acreage not bearing merchantable timber. The totals of those acreage tables may be summarized as follows:

	1,802 holders, timber-groups 1 to 10.	Holders, timber-group 11.
Merchantable-timber acreage (including fee, timber rights, and not-distinguished land), Part I, Table 42	79,092,000	75,038,000
Fee acreage not bearing merchantable timber (so far as reported), Part I, Table 43	10,652,000	(1)
Total for 1,802 holders	89,744,000	....

[1] For the great bulk of holders in this group, information was not sought as to their acreage not bearing merchantable timber.

In the present Part, Table 1 (p. 165) shows the same total of 89,744,000 acres of fee land and timber rights owned in the investigation area by the 1,802 holders, but differs from the acreage tables in Part I in that it groups the holdings on the basis of the amount of total fee acreage owned. The groups range from group 1, consisting of holders each owning over 1,500,000 acres in fee, to group 8, consisting of holders each owning less than 18,000 acres in fee. The table also includes, for completeness, timber rights and merchantable timberland not distinguished as to whether it is fee or timber rights. The totals may be summarized as follows:

	1,802 holders, acreage-groups 1 to 8.
Fee acreage	78,252,000
Fee merchantable timberland	67,600,000
Fee land not bearing merchantable timber	10,652,000
Timber rights	10,520,000
Not-distinguished land	972,000
Total for 1,802 holders	89,744,000

In this discussion the emphasis is properly on the total fee acreage owned. Hence, though timber rights and not-distinguished land are carried in Table 1, they are omitted from Tables 2 and 3. Table 2 is a cumulative table computed from Table 1 by addition of the groups, but confined to total fee acreage. Table 3 shows the detail of the total fee acreage by holders for the first 3 groups of Table 1. These 3 groups comprise all large timber holders that own in the investigation area over 300,000 acres each in fee.

Section 3. Land in investigation area owned by large timber holders.

LIMITATIONS OF TABLES IN THIS SECTION.—The land tables in this section have certain limitations—some of them already stated—that it is important to bear in mind. The figures must not be given too wide application.

In the first place they cover the holdings of timber holders only. Moreover, of timber holders, they include only those who own as much as 60 million feet of timber each. They exclude the vast number of timber holdings of less than 60 million feet—holdings that range from several thousand acres down to the single 160-acre claim or less. In the Southern Pine Region, especially, a great many timber holders, separately reported to the Bureau, had acreages ranging from 1,000 acres or less up to 90,000 acres, but did not have as much as 60 million feet of timber. In that region alone such holders aggregate about 8,000 in number, with nearly 13,600,000 acres,[1] part of which is in timber rights. For the Pacific-Northwest and the Lake States the number and acreage of such separately reported holders of less than 60 million feet have not been tabulated, but the number is much less than in the Southern Pine Region. All such holdings, though separately reported, are excluded from the tables.

Secondly, the tables cover only the "investigation area," an area divided into three regions and defined as follows: *Pacific-Northwest*, comprising California, Oregon, Washington, Idaho, and Montana; *Southern Pine Region*, comprising Arkansas, Texas,[2] Louisiana, Mississippi, Alabama, Florida, and part of the timbered portions of Missouri, Georgia, South Carolina, and Virginia; *Lake States*, comprising Michigan, Wisconsin, and Minnesota. (See Part I, p. 63, for a detailed description of the area.)

Thirdly, even in the investigation area, Tables 1, 2, and 3 do not cover any lands which timber holders, or their subsidiaries, may own in the large stretches of timberless country found in some of the States, as, for example, in Texas, southern California, central Washington, eastern Montana, southern Minnesota, etc. In other words, the Bureau sought information only as to land holdings owned by timber holders in those parts of the investigation area that may be described as within the general boundaries of the timber belts, taking the term "timber belt" in its broadest sense. So far as lands not bearing merchantable timber are included in the tables, they are

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[1] Separately reported holders of less than 60 million feet in Southern Pine Region and their acreage (excluded from tables in this section) are shown in the following tabular statement:

Groups.	Number of holders.	Acres reported (including timber rights).
Less than 1,000 acres	4,821	1,555,000
1,000 to 5,000 acres	2,488	5,469,000
5,000 to 18,000 acres	652	5,380,000
Over 18,000 acres	46	1,187,000
Total	8,007	13,591,000

[2] Only the timber belt, located in the eastern part of the State, is covered.

lands held in more or less close connection with the merchantable-timber land of their owners. Five important cases have come to the Bureau's attention from published sources where large timber holders concerning whom timber reports were secured own in addition to their timberlands large amounts of land in the timberless portions of the investigation area and in States outside the investigation area. These additional lands have been omitted here in order to keep the tables in this section on as uniform a basis as possible. A later section (pp. 180 to 181) takes up briefly the five holdings thus partly omitted from the main tables.

The importance of the omitted parts of these five holdings is indicated by the fact that they amount to 27,346,000 acres, or over one-third as much as all fee holdings included in the main tables.

Again, it is necessary to have in mind the fact already stated in Part I (p. 162) that in the Bureau's work special emphasis was laid on the acreage of land now bearing merchantable timber, and that though owners were asked to make a separate statement of other land owned many did not report their nontimbered land at all, even that adjoining their merchantable-timber land.[1]

Finally, the fee of a considerable part of the 10,520,000 acres of timber rights shown in Table 1 is undoubtedly owned by large corporations, and in so far as it is thus owned the concentration of land ownership is so much greater than is indicated by the table. Often the lumber companies buy up timber rights on a large number of small tracts and individual claims, in which the fee ownership underlying the timber rights is scattered and unimportant for the purposes of a land discussion. On the other hand, great land companies which have succeeded to Government or State grants or which have bought up immense tracts of land for speculation often lease the timber rights to lumber companies, but still retain the fee. The Bureau's investigation did not, in general, go into this matter, though some cases have come to its attention.

For example, the Houston Oil Co. owns[2] the fee and mineral rights on 690,000 acres in Texas and Louisiana, on which the Kirby Lumber Co. has the timber. These 690,000 acres are included in the tables of this Report as timber rights of the Kirby Lumber Co. But underneath these timber rights is a great land holding, which in a complete study of land ownership in this country would not be obscured as it necessarily is in the present treatment of land ownership by the timber holders.

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[1] On the other hand, in the lumbering sections, the reports of many holders did not distinguish open, denuded, and young-timber land from that bearing merchantable timber; so that in Tables 1 and 2 there are probably considerable acreages included under fee merchantable-timber land that really do not bear merchantable timber. This is especially the case in the Upper Peninsula of Michigan. This error is of less importance in the present discussion of land holdings as such (since, whether timbered or not, this land is owned in fee) than it was in Part I where the discussion was concerned with the timbered or nontimbered character of the land.

[2] The present tense is used here and in general throughout the Report, to refer to the facts as reported at the time of the Bureau's field investigation. In this case, the report on the Houston Oil Co.'s holding was obtained in 1908.

The information shown here regarding concentration of land ownership, even in the timbered parts of the States in the investigation area, is therefore only partial. A thorough investigation into land ownership in some other parts of these States, to say nothing of the timbered and grazing regions outside the investigation area, would add very greatly to the striking facts shown by these partial data; though, of course, in farming communities a much lower degree of concentration would be found. Great landowning corporations are found in many sections of the country. The largest land owners are railroads, and some of the other large landowning corporations have close relations with railroads, thus strengthening their control. A few timber owners dominate the northern half of California and Oregon and Washington, west of the Cascades; and the railroads in this territory have great land interests. A map in Chapter III shows the extent to which 32 land owners, each having over 40,000 acres, own the Upper Peninsula of Michigan. Wherever there was promise of large profit through timber holding in the South, a great proportion of the area has been acquired by a few interests. In some cases, almost entire counties are dominated by one corporation.

CONCENTRATION OF LAND OWNERSHIP.—The number of holders in each group in the investigation area is shown in italics at the head of the table. The number for the entire investigation area is 1,802; but several of these own in more than one of the regions; and hence the sum of the holders shown for the three regions includes some duplication and therefore is greater than 1,802, the true total.[1] The number of holders in each State is not shown because it would involve many duplications.

To guard against possible misunderstanding as to what constitutes a "holder" in the sense in which the word is used throughout this Report, it is well to repeat here two paragraphs given in Part I, pages 95 and 96, on this point:

> There is a remarkable interweaving of interests among owners of timber, individual and corporate. It often happens that only a fraction of the timber under one control is held in any one name. Most of the important owners refused to furnish the information necessary to reveal the great concentration of control through personal and corporate relations. Yet only answers on this point

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[1] Sometimes a holder owning in more than one region has only a small proportion of his holding in a given region. If his acreage in that region is less than 15 per cent of the minimum limit of the group in which his holding in the investigation area places him, he has not been counted as a holder *in that region*, though his acreage there is included. This plan tends to prevent unimportant parts of holdings from obscuring the real degree of concentration in a given region. It affects only 20 holders; and the number thus excluded, for each region, with their acreage, is shown in the foot table at the end of Table 1. By subtracting the acreage shown in the foot table for a given region from the amount shown in the main table for the same region, one can ascertain, if desired, the acreage owned in that region by the holders counted; or by adding the number of holders shown for a given region in the foot table to the number shown in the main table, one can ascertain the actual number of holders owning the acreage shown in the main table for that region.

(see question 7 of schedule, p. 275) would reveal the true concentration of the ownership of timber. Persistent effort was made to secure the information on stock holdings from those concerned and from others who might know the facts, and, as is shown below, separate owners of record were consolidated wherever sufficient evidence of one controlling interest was obtained. But nothing short of access to the stock books of all important timber-owning corporations would show the true situation. Therefore the degree of concentration set forth in this report is certainly much below that which actually exists.

Some corporations gave the information regarding stockholders and stock interests in other corporations; some individuals stated, apparently in good faith, their stock holdings in corporations connected with the lumber industry; and from independent sources some specific facts and much general information were gathered. This evidence was carefully considered, and where it was sufficient to show a common control through ownership the separate holdings so controlled were combined and treated as one in the tables of this chapter. Such combinations were not made because of mere common management or harmonious operation. The test was that of actual control through ownership of at least half the stock by the interest in question. If an individual owning timber had at least half the stock of a timber-owning corporation, the two holdings were combined as one. A corporation was combined with others in which it held a majority of the stock. In a number of important cases, the same few individuals appeared in several corporations as holding a majority of the stock in each, and the corporate holdings were therefore combined as one.

The tables follow:

TABLE 1.—LAND HOLDINGS OWNED IN FEE IN TIMBERED PARTS OF THE INVESTIGATION AREA BY TIMBER HOLDERS OF OVER 60 MILLION FEET EACH, GROUPED BY AMOUNT OF TOTAL FEE; TOGETHER WITH THEIR TIMBER RIGHTS AND THEIR LAND NOT DISTINGUISHED AS FEE OR TIMBER RIGHTS.

[In thousands of acres. Thus, 78,252=78,252,000 acres. See pp. 161 to 164 for limitations of this table, also p. 181 for 27,346,000 acres owned by 5 of these holders but omitted from the table.]

INVESTIGATION AREA.

Grand total for Pacific-Northwest, Southern Pine Region, and Lake States.

	Total, all groups.	Group 1 (holders of 1,500,000 acres, fee, and over).	Group 2 (holders of 800,000 to 1,500,000 acres, fee).	Group 3 (holders of 300,000 to 800,000 acres, fee).	Group 4 (holders of 150,000 to 300,000 acres, fee).	Group 5 (holders of 75,000 to 150,000 acres, fee).	Group 6 (holders of 37,500 to 75,000 acres, fee).	Group 7 (holders of 18,000 to 37,500 acres, fee).	Total, groups 1-7.	Group 8 (holders of less than 18,000 acres, fee).	
										Having fee acreage.	Having no reported fee acreage.
Number of holders	*1,806*	*5*	*9*	*27*	*48*	*124*	*206*	*318*	*737*	*961*	*108*
Total fee	78,252	12,794	7,829	9,911	9,608	12,600	10,604	8,175	71,521	6,731	......
Fee, merchantable timber	67,600	10,971	5,699	8,503	8,460	11,133	9,348	7,251	61,365	6,235	......
Fee, additional	10,652	1,823	2,130	1,408	1,148	1,467	1,256	924	10,156	496	......
Timber rights	10,520	76	56	1,809	780	1,036	1,045	1,389	6,191	2,503	1,826
Not distinguished	972	......	......	77	40	18	14	4	153	225	594

TABLE 1.—LAND HOLDINGS OWNED IN FEE IN TIMBERED PARTS OF THE INVESTIGATION AREA BY TIMBER HOLDERS OF OVER 60 MILLION FEET EACH, GROUPED BY AMOUNT OF TOTAL FEE; TOGETHER WITH THEIR TIMBER RIGHTS AND THEIR LAND NOT DISTINGUISHED AS FEE OR TIMBER RIGHTS—Continued.

[In thousands of acres. Thus, 78,252=78,252,000 acres. See pp. 161 to 164 for limitations of this table, also p. 181 for 27,346,000 acres owned by 5 of these holders but omitted from the table.]

Pacific-Northwest.

Total for the 5 States.

	Total, all groups.	Group 1 (holders of 1,500,000 acres, fee, and over).	Group 2 (holders of 800,000 to 1,500,000 acres, fee).	Group 3 (holders of 300,000 to 800,000 acres, fee).	Group 4 (holders of 150,000 to 300,000 acres, fee).	Group 5 (holders of 75,000 to 150,000 acres, fee).	Group 6 (holders of 37,500 to 75,000 acres, fee).	Group 7 (holders of 18,000 to 37,500 acres, fee).	Total, groups 1-7.	Group 8 (holders of less than 18,000 acres, fee). Having fee acreage.	Group 8 (holders of less than 18,000 acres, fee). Having no reported fee acreage.
Number of holders	*704*	*3*	*2*	*7*	*18*	*22*	*33*	*70*	*155*	*547*	*2*
Total fee	23,105	9,487	1,884	2,340	1,594	1,544	1,884	1,676	20,409	2,696	......
Fee, merchantable timber	21,416	8,716	1,779	2,247	1,483	1,404	1,741	1,525	18,895	2,521	......
Fee, additional	1,689	771	105	93	111	140	143	151	1,514	175	......
Timber rights	448	9	15	155	12	21	85	42	339	104	5
California.											
Total fee	6,074	2,321	768	286	675	444	553	547	5,594	480	......
Fee, merchantable timber	5,398	1,939	768	286	661	401	449	459	4,963	435	......
Fee, additional	676	382	......	......	14	43	104	88	631	45	......
Timber rights	50	......	......	15	......	......	6	21	42	6	2
Oregon.											
Total fee	6,744	2,472	......	910	529	371	825	586	5,693	1,051	......
Fee, merchantable timber	6,360	2,288	......	879	469	358	795	556	5,345	1,015	......
Fee, additional	384	184	......	31	60	13	30	30	348	36	......
Timber rights	61	......	......	......	2	5	43	2	52	9	......
Washington.											
Total fee	6,170	3,145	......	306	288	636	321	439	5,135	1,035	......
Fee, merchantable timber	5,773	3,009	......	294	251	554	312	407	4,827	946	......
Fee, additional	397	136	......	12	37	82	9	32	308	89	......
Timber rights	129	9	......	2	2	9	25	10	57	69	3
Idaho.											
Total fee	1,593	396	4	725	88	59	136	78	1,486	107	......
Fee, merchantable timber	1,469	327	3	675	88	59	136	78	1,366	103	......
Fee, additional	124	69	1	50	......	......	......	......	120	4	......
Timber rights	176	......	......	136	8	5	1	9	159	17	......

TABLE 1.—LAND HOLDINGS OWNED IN FEE IN TIMBERED PARTS OF THE INVESTIGATION AREA BY TIMBER HOLDERS OF OVER 60 MILLION FEET EACH, GROUPED BY AMOUNT OF TOTAL FEE; TOGETHER WITH THEIR TIMBER RIGHTS AND THEIR LAND NOT DISTINGUISHED AS FEE OR TIMBER RIGHTS—Continued.

[In thousands of acres. Thus, 78,252=78,252,000 acres. See pp. 161 to 164 for limitations of this table, also p. 181 for 27,346,000 acres owned by 5 of these holders but omitted from the table.]

Pacific-Northwest—Continued.

Montana.

	Total, all groups.	Group 1 (holders of 1,500,000 acres, fee, and over).	Group 2 (holders of 500,000 to 1,500,000 acres, fee).	Group 3 (holders of 300,000 to 500,000 acres, fee).	Group 4 (holders of 150,000 to 300,000 acres, fee).	Group 5 (holders of 75,000 to 150,000 acres, fee).	Group 6 (holders of 37,500 to 75,000 acres, fee).	Group 7 (holders of 18,000 to 37,500 acres, fee).	Total, groups 1-7.	Group 8 (holders of less than 18,000 acres, fee).	
										Having fee acreage.	Having no reported fee acreage.
Total fee	2,524	1,153	1,112	113	14	34	49	26	2,501	23	......
Fee, merchantable timber.	2,416	1,153	1,008	113	14	32	49	25	2,394	22	......
Fee, additional	108	......	104	......	......	2	......	1	107	1	......
Timber rights	32	......	15	2	......	2	10	......	29	3	......

Southern Pine Region.

Total for the 11 States.

	Total, all groups.	Group 1 (holders of 1,500,000 acres, fee, and over).	Group 2 (holders of 500,000 to 1,500,000 acres, fee).	Group 3 (holders of 300,000 to 500,000 acres, fee).	Group 4 (holders of 150,000 to 300,000 acres, fee).	Group 5 (holders of 75,000 to 150,000 acres, fee).	Group 6 (holders of 37,500 to 75,000 acres, fee).	Group 7 (holders of 18,000 to 37,500 acres, fee).	Total, groups 1-7.	Group 8 (holders of less than 18,000 acres, fee).	
										Having fee acreage.	Having no reported fee acreage.
Number of holders	*935*	*1*	*7*	*15*	*35*	*90*	*136*	*201*	*485*	*350*	*100*
Total fee	43,230	1,754	5,137	5,505	6,463	8,945	7,025	5,168	39,997	3,233	......
Fee, merchantable timber.	36,790	1,083	3,384	4,535	5,844	8,150	6,226	4,610	33,832	2,958	......
Fee, additional	6,440	671	1,753	970	619	795	799	558	6,165	275	......
Timber rights	8,853	67	6	1,531	657	946	774	1,186	5,167	1,977	1,709
Not distinguished	972	......	......	77	40	18	14	4	153	225	594

Missouri (part).

	Total, all groups.	Group 1 (holders of 1,500,000 acres, fee, and over).	Group 2 (holders of 500,000 to 1,500,000 acres, fee).	Group 3 (holders of 300,000 to 500,000 acres, fee).	Group 4 (holders of 150,000 to 300,000 acres, fee).	Group 5 (holders of 75,000 to 150,000 acres, fee).	Group 6 (holders of 37,500 to 75,000 acres, fee).	Group 7 (holders of 18,000 to 37,500 acres, fee).	Total, groups 1-7.	Group 8 (holders of less than 18,000 acres, fee).	
										Having fee acreage.	Having no reported fee acreage.
Total fee	1,255	......	......	149	258	596	163	31	1,197	58	......
Fee, merchantable timber.	1,212	......	......	149	258	585	132	31	1,155	57	......
Fee, additional	43	......	......	......	......	11	31	......	42	1	......
Timber rights	31	......	......	17	......	......	1	......	18	13	......

Arkansas.

	Total, all groups.	Group 1 (holders of 1,500,000 acres, fee, and over).	Group 2 (holders of 500,000 to 1,500,000 acres, fee).	Group 3 (holders of 300,000 to 500,000 acres, fee).	Group 4 (holders of 150,000 to 300,000 acres, fee).	Group 5 (holders of 75,000 to 150,000 acres, fee).	Group 6 (holders of 37,500 to 75,000 acres, fee).	Group 7 (holders of 18,000 to 37,500 acres, fee).	Total, groups 1-7.	Group 8 (holders of less than 18,000 acres, fee).	
										Having fee acreage.	Having no reported fee acreage.
Total fee	4,618	......	571	246	206	1,275	1,020	779	4,097	521	......
Fee, merchantable timber.	4,185	......	571	226	159	1,186	851	703	3,696	489	......
Fee, additional	433	......	......	20	47	89	169	76	401	32	......
Timber rights	599	......	......	129	22	96	63	122	432	137	30
Not distinguished	166	......	......	......	......	......	......	......	......	16	150

TABLE 1.—LAND HOLDINGS OWNED IN FEE IN TIMBERED PARTS OF THE INVESTIGATION AREA BY TIMBER HOLDERS OF OVER 60 MILLION FEET EACH, GROUPED BY AMOUNT OF TOTAL FEE; TOGETHER WITH THEIR TIMBER RIGHTS AND THEIR LAND NOT DISTINGUISHED AS FEE OR TIMBER RIGHTS—Continued.

[In thousands of acres. Thus, 78,252=78,252,000 acres. See pp. 161 to 164 for limitations of this table, also p. 181 for 27,346,000 acres owned by 5 of these holders but omitted from the table.]

Southern Pine Region—Continued.

	Total, all groups.	Group 1 (holders of 1,500,000 acres, fee, and over).	Group 2 (holders of 500,000 to 1,500,000 acres, fee).	Group 3 (holders of 300,000 to 500,000 acres, fee).	Group 4 (holders of 150,000 to 300,000 acres, fee).	Group 5 (holders of 75,000 to 150,000 acres, fee).	Group 6 (holders of 37,500 to 75,000 acres, fee).	Group 7 (holders of 18,000 to 37,500 acres, fee).	Total, groups 1-7.	Group 8 (holders of less than 18,000 acres, fee). Having fee acreage.	Group 8 (holders of less than 18,000 acres, fee). Having no reported fee acreage.
Texas.											
Total fee	3,092	117	......	697	473	760	271	482	2,800	292	......
Fee, merchantable timber	2,784	117	......	623	441	678	243	397	2,499	285	......
Fee, additional	308	......	......	74	32	82	28	85	301	7	......
Timber rights	1,344	......	......	747	104	107	43	99	1,100	145	99
Not distinguished	22	......	......	......	......	......	......	......	......	5	17
Louisiana.											
Total fee	6,739	12	26	1,953	1,066	1,076	1,182	706	6,021	718	......
Fee, merchantable timber	6,013	12	26	1,692	974	981	1,017	657	5,359	654	......
Fee, additional	726	......	......	261	92	95	165	49	662	64	......
Timber rights	1,143	......	......	351	133	76	45	144	749	224	170
Not distinguished	151	......	......	......	......	......	......	......	......	98	53
Mississippi.											
Total fee	3,975	......	......	565	883	598	788	560	3,394	581	......
Fee, merchantable timber	3,816	......	......	565	883	576	748	518	3,290	526	......
Fee, additional	159	......	......	......	......	22	40	42	104	55	......
Timber rights	716	......	......	14	56	89	135	92	386	240	90
Not distinguished	187	......	......	......	26	18	14	......	57	25	105
Alabama.											
Total fee	3,653	......	165	334	716	925	781	429	3,350	30.	......
Fee, merchantable timber	3,219	......	165	152	679	829	748	362	2,935	284	......
Fee, additional	434	......	......	182	37	96	33	67	415	19	......
Timber rights	419	......	6	......	1	71	107	55	240	134	45
Florida.											
Total fee	15,523	1,625	3,784	1,524	2,115	2,779	2,163	1,336	15,326	197	......
Fee, merchantable timber	11,563	954	2,031	1,092	1,815	2,436	1,910	1,178	11,416	147	......
Fee, additional	3,960	671	1,753	432	300	343	253	158	3,910	50	......
Timber rights	1,302	67	......	134	38	168	158	269	834	148	320
Not distinguished	166	......	......	......	5	......	......	......	5	42	119

TABLE 1.—LAND HOLDINGS OWNED IN FEE IN TIMBERED PARTS OF THE INVESTIGATION AREA BY TIMBER HOLDERS OF OVER 60 MILLION FEET EACH, GROUPED BY AMOUNT OF TOTAL FEE; TOGETHER WITH THEIR TIMBER RIGHTS AND THEIR LAND NOT DISTINGUISHED AS FEE OR TIMBER RIGHTS—Continued.

[In thousands of acres. Thus, 78,252=78,252,000 acres. See pp. 161 to 164 for limitations of this table, also p. 161 for 27,346,000 acres owned by 5 of these holders but omitted from the table.]

Southern Pine Region—Continued.

	Total, all groups.	Group 1 (holders of 1,500,000 acres, fee, and over).	Group 2 (holders of 500,000 to 1,500,000 acres, fee).	Group 3 (holders of 300,000 to 500,000 acres, fee).	Group 4 (holders of 150,000 to 300,000 acres, fee).	Group 5 (holders of 75,000 to 150,000 acres, fee).	Group 6 (holders of 37,500 to 75,000 acres, fee).	Group 7 (holders of 18,000 to 37,500 acres, fee).	Total, groups 1-7.	Group 8 (holders of less than 18,000 acres, fee).	
										Having fee acreage.	Having no reported fee acreage.
Georgia (part).											
Total fee	1,556	......	1	......	248	473	251	509	1,482	74	......
Fee, merchantable timber	1,396	......	1	......	211	448	198	464	1,322	74	......
Fee, additional	160	......	......	......	37	25	53	45	160	......	......
Timber rights	1,289	......	......	30	266	56	30	55	437	146	706
Not distinguished	10	......	......	......	......	......	......	......	......	10	......
South Carolina (part).											
Total fee	888	......	......	3	4	360	124	131	622	266	......
Fee, merchantable timber	756	......	......	2	4	328	105	95	534	222	......
Fee, additional	132	......	......	1	......	32	19	36	88	44	......
Timber rights	997	......	......	7	37	283	90	210	627	257	113
North Carolina (part).											
Total fee	1,697	......	565	5	434	103	282	163	1,552	145	......
Fee, merchantable timber	1,615	......	565	5	360	103	274	163	1,470	145	......
Fee, additional	82	......	......	......	74	......	8	......	82	......	......
Timber rights	839	......	......	1	......	......	102	140	243	470	126
Not distinguished	221	......	......	29	10	......	......	4	43	28	150
Virginia (part).											
Total fee	234	......	25	29	60	......	......	42	156	78	......
Fee, merchantable timber	231	......	25	29	60	......	......	42	156	75	......
Fee, additional	3	......	......	......	......	......	......	......	......	3	......
Timber rights	174	......	......	101	......	......	......	......	101	63	10
Not distinguished	49	......	......	48	......	......	......	......	48	1	......

TABLE 1.—LAND HOLDINGS OWNED IN FEE IN TIMBERED PARTS OF THE INVESTIGATION AREA BY TIMBER HOLDERS OF OVER 60 MILLION FEET EACH, GROUPED BY AMOUNT OF TOTAL FEE; TOGETHER WITH THEIR TIMBER RIGHTS AND THEIR LAND NOT DISTINGUISHED AS FEE OR TIMBER RIGHTS—Continued.

[In thousands of acres. Thus, 78,252=78,252,000 acres. See pp. 161 to 164 for limitations of this table, also p. 181 for 27,346,000 acres owned by 5 of these holders but omitted from the table.]

Lake States.

Total for the 3 States.

	Total, all groups.	Group 1 (holders of 1,500,000 acres, fee, and over).	Group 2 (holders of 500,000 to 1,500,000 acres, fee).	Group 3 (holders of 300,000 to 500,000 acres, fee).	Group 4 (holders of 150,000 to 300,000 acres, fee).	Group 5 (holders of 75,000 to 150,000 acres, fee).	Group 6 (holders of 37,500 to 75,000 acres, fee).	Group 7 (holders of 18,000 to 37,500 acres, fee).	Total, groups 1-7.	Group 8 (holders of less than 18,000 acres, fee).	
										Having fee acreage.	Having no reported fee acreage.
Number of holders	*218*	*1*	*1*	*7*	*12*	*23*	*39*	*53*	*136*	*76*	*6*
Total fee	11,917	1,553	808	2,066	1,551	2,111	1,695	1,331	11,115	802	......
Fee, merchantable timber.	9,394	1,172	536	1,721	1,133	1,579	1,381	1,116	8,638	756	......
Fee, additional	2,523	381	272	345	418	532	314	215	2,477	46	......
Timber rights	1,219	......	35	123	111	69	186	161	685	422	112
Michigan.											
Total fee	6,841	1,515	171	1,261	952	1,280	654	662	6,495	346	......
Fee, merchantable timber.	5,585	1,134	169	1,109	743	938	596	570	5,259	326	......
Fee, additional	1,256	381	2	152	209	342	58	92	1,236	20	......
Timber rights	287	......	......	3	15	42	82	47	189	57	41
Wisconsin.											
Total fee	3,274	......	2	294	434	739	922	556	2,947	327	......
Fee, merchantable timber.	2,543	......	2	140	336	602	726	433	2,239	304	......
Fee, additional	731	......	......	154	98	137	196	123	708	23	......
Timber rights	403	......	......	......	13	26	96	57	192	180	31
Minnesota.											
Total fee	1,802	38	635	511	165	92	119	113	1,673	129	......
Fee, merchantable timber.	1,266	38	365	472	54	39	59	113	1,140	126	......
Fee, additional	536	......	270	39	111	53	60	......	533	3	......
Timber rights	529	......	35	120	83	1	8	57	304	185	40

NOTE.

The holders that the above table excludes from the count of "number of holders" in certain regions, with the amounts of their acreage that the table includes in those regions, are indicated in the following foot table. In each case, as explained above in the footnote on p. 164, the holder excluded from the count of the number has in that region less than 15 per cent of the minimum limit of the group. Thus, the Southern Pacific, a member of the first group of holders of over 1,500,000 acres, has in the Southern Pine Region only 129,000 acres; these 129,000 acres are included in the main table, but being less than 15 per cent of 1,500,000, the Southern Pacific is not counted as a holder in the Southern Pine Region. The one holder counted in group 1 in that region is the Consolidated Land Co., and the 1,754,000 acres of fee land shown in the table for this group in the Southern Pine Region consist of 1,625,000 acres for the Consolidated Land Co. in Florida, and the 129,000 for the Southern Pacific in Texas and Louisiana. The detail in Table 3 shows this clearly. Though not counted in the Southern Pine Region, the Southern Pacific is, of course, counted in the Pacific-Northwest, and in the investigation area.

TABLE 1a.—HOLDERS EXCLUDED FROM COUNT OF NUMBER OF HOLDERS IN TABLE 1 IN REGIONS WHERE THEIR HOLDING IS LESS THAN 15 PER CENT OF THE MINIMUM LIMIT OF THE GROUP, WITH AMOUNT OF THEIR INCLUDED ACREAGE IN THOSE REGIONS.

	Total, groups 1 to 7.		Group 1.		Group 2.		Group 3.		Group 4.		Group 5.		Group 6.		Group 7.	
	Number of holders.	Thousands of acres.	Number of holders.	Thousands of acres.	Number of holders.	Thousands of acres.	Number of holders.	Thousands of acres.	Number of holders.	Thousands of acres.	Number of holders.	Thousands of acres.	Number of holders.	Thousands of acres.	Number of holders.	Thousands of acres.
Pacific-Northwest.																
Total fee	10	105	....	....	1	6	3	78	1	1	2	15	2	3	1	2
Fee, merchantable timber	....	105	....	....	....	6	....	78	....	1	....	15	....	3	....	2
Timber rights	....	15	....	....	....	....	....	....	....	1	....	....	....	14	....	....
Southern Pine Region.																
Total fee	3	152	1	129	....	....	....	....	1	20	....	....	1	3	....	....
Fee, merchantable timber	....	152	....	129	....	....	....	....	....	20	....	....	....	3	....	....
Timber rights	....	7	....	....	....	....	....	....	....	6	....	....	....	1	....	....
Lake States.																
Total fee	7	105	1	38	1	10	2	41	1	14	1	1	....	....	1	1
Fee, merchantable timber	....	100	....	38	....	10	....	37	....	14	....	....	....	....	....	1
Fee, additional	....	5	....	....	....	....	....	4	....	....	....	1	....	....	....	....
Timber rights	....	63	....	....	....	36	....	....	....	....	....	2	....	....	....	25

TABLE 2.—LAND HOLDINGS OWNED IN FEE IN TIMBERED PARTS OF INVESTIGATION AREA BY TIMBER HOLDERS OF OVER 60 MILLION FEET EACH, BY SIZE GROUPS, SHOWN CUMULATIVELY.

[In thousands of acres. Thus, 12,794=12,794,000 acres. See pp. 161 to 164 for limitations of this table, also p. 161 for 27,346,000 acres owned by 5 of these holders but omitted from the table. This table is computed by adding the "total fee" entries in Table 1. Timber rights and not-distinguished land are omitted. Since 108 holders in group 8 in Table 1 reported only timber rights or not-distinguished land, the omission of these 108 reduces the number of holders in the present table from 1,802 to 1,694.]

	Group 1 (over 1,500,000 acres, fee).	Groups 1-2 (over 500,000 acres, fee).	Groups 1-3 (over 300,000 acres, fee).	Groups 1-4 (over 150,000 acres, fee).	Groups 1-5 (over 75,000 acres, fee).	Groups 1-6 (over 37,500 acres, fee).	Groups 1-7 (over 18,000 acres, fee).	Total, groups 1-8.
Number of holders	*5*	*14*	*41*	*89*	*213*	*415*	*733*	*1,694*
Investigation area	12,794	20,623	30,534	40,142	52,742	63,346	71,521	[illegible]
Number of holders [1]	*3*	*5*	*12*	*24*	*40*	*85*	*155*	[illegible]
Pacific-Northwest	9,487	11,371	13,711	15,305	16,849	18,733	20,409	[illegible]
California	2,321	3,089	3,375	4,060	4,494	5,047	5,594	6,074
Oregon	2,472	2,472	3,382	3,911	4,282	5,107	5,693	6,744
Washington	3,145	3,145	3,451	3,739	4,375	4,696	5,135	6,179
Idaho	396	400	1,125	1,213	1,272	1,408	1,486	[illegible]
Montana	1,153	2,265	2,378	2,382	2,426	2,475	2,501	[illegible]
Number of holders. [1]	*1*	*8*	*23*	*58*	*148*	*284*	*485*	[illegible]
Southern Pine Region	1,754	6,891	12,396	18,859	27,804	34,829	39,997	[illegible]
Missouri (part)			149	407	1,003	1,166	1,197	[illegible]
Arkansas		571	817	1,023	2,298	3,318	4,097	[illegible]
Texas	117	117	814	1,287	2,047	2,318	2,800	[illegible]
Louisiana	12	38	1,991	3,057	4,133	5,315	6,021	[illegible]
Mississippi			565	1,448	2,046	2,824	3,394	[illegible]
Alabama		165	499	1,215	2,140	2,921	3,350	[illegible]
Florida	1,625	5,409	6,933	9,048	11,827	13,990	15,326	[illegible]
Georgia (part)		1	1	249	722	973	1,482	[illegible]
South Carolina (part)			3	7	367	491	622	[illegible]
North Carolina (part)		565	570	1,004	1,107	1,359	1,552	[illegible]
Virginia (part)		25	54	114	114	116	156	[illegible]
Number of holders. [1]	*1*	*2*	*9*	*21*	*44*	*83*	*198*	[illegible]
Lake States	1,553	2,361	4,427	5,978	8,089	9,784	11,115	11,917
Michigan	1,515	1,686	2,947	3,899	5,179	5,833	6,495	[illegible]
Wisconsin		2	296	730	1,469	2,391	2,947	3,274
Minnesota	38	673	1,184	1,349	1,441	1,560	1,673	[illegible]

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[1] For method of counting the number of holders in the separate regions see the note following Table 1, and Table 1a, which apply to Table 2 so far as fee is concerned.

TABLE 3.—LAND HOLDINGS OWNED IN FEE IN TIMBERED PARTS OF INVESTIGATION AREA BY EACH HOLDER OF GROUPS 1 TO 3 IN TABLE 1, BEING LARGE TIMBER HOLDERS EACH OWNING OVER 300,000 ACRES, FEE.

[In thousands of acres. Thus, 4,522=4,522,000 acres. See pp. 161 to 164 for limitations of this table, also p. 181 for 27,346,000 acres owned by 5 of these holders but omitted from the table.]

Groups and holders.	Investigation area.	Pacific-Northwest.	California.	Oregon.	Washington.	Idaho.	Montana.	Southern Pine Region.	Missouri (part).	Arkansas.	Texas.	Louisiana.	Mississippi.	Alabama.	Florida.	Georgia (part).	South Carolina (part).	North Carolina (part).	Virginia (part).	Lake States.	Michigan.	Wisconsin.	Minnesota.
Group 1 (over 1,500,000 acres, fee):																							
Southern Pacific Co..	4,522	4,393	2,314	2,079	......	......	......	129	......	......	117	12	......	......	......	......	......	......	......	......	......	......	......
Northern Pacific Ry. Co.	3,196	3,158	......	......	1,612	393	1,153	......	......	......	......	......	......	......	......	......	......	......	......	38	......	......	38
Weyerhaeuser Timber Co.	1,936	1,936	7	393	1,533	3	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......
Consolidated Land Co.	1,625	......	......	......	......	......	......	1,625	......	......	......	......	......	......	1,625	......	......	......	......	......	......	......	......
Cleveland Cliffs Iron Co. interests	1,515	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	1,515	1,515	......	......
Total, group 1	12,794	9,487	2,321	2,472	3,145	396	1,153	1,754	......	......	117	12	......	......	1,625	......	......	......	......	1,553	1,515	......	38
Group 2 (500,000 to 1,500,000 acres, fee):																							
Southern States Land & Timber Co.	1,428	......	......	......	......	......	......	1,428	......	......	......	26	......	......	1,402	......	......	......	......	......	......	......	......
Empire Land and National Timber companies	1,172	......	......	......	......	......	......	1,172	......	......	......	......	......	......	1,172	......	......	......	......	......	......	......	......
Amalgamated Copper Co. interests	1,116	1,116	......	......	......	4	1,112	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......
United States Steel Corporation interests	965	......	......	......	......	......	......	166	......	......	......	......	......	165	......	1	......	......	......	799	171	2	626

TABLE 3.—LAND HOLDINGS OWNED IN FEE IN TIMBERED PARTS OF INVESTIGATION AREA BY EACH HOLDER OF GROUPS 1 TO 3 IN TABLE 1, BEING LARGE TIMBER HOLDERS EACH OWNING OVER 300,000 ACRES, FEE—Continued.

[In thousands of acres. Thus, 4,522=4,522,000 acres. See pp. 161 to 164 for limitations of this table, also p. 181 for 27,346,000 acres owned by 5 of these holders but omitted from the table.]

Groups and holders.	Investigation area.	Pacific - Northwest.	California.	Oregon.	Washington.	Idaho.	Montana.	Southern Pine Region.	Missouri (part).	Arkansas.	Texas.	Louisiana.	Mississippi.	Alabama.	Florida.	Georgia (part).	South Carolina (part).	North Carolina (part).	Virginia (part).	Lake States.	Michigan.	Wisconsin.	Minnesota.
Group 2 (500,000 to 1,500,000 acres, fee)—Contd.																							
T. B. Walker interests	771	762	762	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	9	......	......	9
Florida Coast Line Canal & Transportation Co. interests..	610	......	......	......	......	......	......	610	......	......	......	......	......	......	610	......	......	......	......	......	......	......	......
John Paul interests...	606	6	6	......	......	......	......	600	......	......	......	......	......	......	600	......	......	......	......	......	......	......	......
Norfolk Southern R. R. Co...........	590	......	......	......	......	......	......	590	......	......	......	......	......	......	......	......	......	565	25	......	......	......	......
The Missouri Pacific Ry. Co...........	571	......	......	......	......	......	......	571	......	571	......	......	......	......	......	......	......	......	......	......	......	......	......
Total, group 2......	7,829	1,884	768	......	......	4	1,112	5,137	......	571	......	26	......	165	3,784	1	......	565	25	808	171	2	635
Group 3 (300,000 to 500,000 acres, fee):																							
Missouri Lumber & Land Exchange interests............	442	17	......	......	17	......	......	425	149	......	......	276	......	......	......	......	......	......	......	......	......	......	......
Great Southern Lumber Co. and affiliated companies..........	433	......	......	......	......	......	......	433	......	......	......	233	200	......	......	......	......	......	......	......	......	......	......
Model Land Co.......	427	......	......	......	......	......	......	427	......	......	......	......	......	......	427	......	......	......	......	......	......	......	......
Blodgett Co. (Ltd.)...	409	41	......	41	......	......	......	368	......	......	......	......	365	......	......	......	3	......	......	......	......	......	......
I. Stephenson interests	409	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	409	302	107	......

T. H. Shevlin interests	406	230		113		4	113													176			176
Long-Bell Lumber Co. interests	399							399			81	318											
Wheeler interests[1]	396	346	208	129	9															50	50		
Chicago, Milwaukee & St. Paul Ry. Co. interests	395	395			276	119																	
Tensas Delta Land Co.	391							391				391											
Kirby Lumber Co.	383							383			368	15											
Chicago & North Western Ry. Co.	373																			373	186	187	
Keweenaw Association (Ltd.)	373																			373	373		
Southern States Lumber Co.	364							364						225	139								
Wm. Buchanan companies	360							360		30		330											
Frost-Johnson Lumber Co. interests	345							345		68		277											
C. A. Smith interests	344	330	78	249		3														14			14
Cummer-Diggins interests	343							317							317					26	26		
Central Coal & Coke Co. interests	343							343			248	95											
Crossett, Watzek & Gates interests	337	20		16	4			317		148		18		109	42								
Clearwater Timber Co. (Ltd.) and Humbird Lumber Co.	332	333				333																	
Booth-Kelly Lumber Co. interests	324	324		324																			
The Michigan Iron & Land Co. (Ltd.)	324																			324	324		

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[1] See Part I, p. 104.

TABLE 3.—LAND HOLDINGS OWNED IN FEE IN TIMBERED PARTS OF INVESTIGATION AREA BY EACH HOLDER OF GROUPS 1 TO 3 IN TABLE 1, BEING LARGE TIMBER HOLDERS EACH OWNING OVER 300,000 ACRES, FEE—Continued.

[In thousands of acres. Thus, 4,522=4,522,000 acres. See pp. 161 to 164 for limitations of this table, also p. 181 for 27,346,000 acres owned by 5 of these holders but omitted from the table.]

Groups and holders.	Investigation area.	Pacific-Northwest.	California.	Oregon.	Washington.	Idaho.	Montana.	Southern Pine Region.	Missouri (part).	Arkansas.	Texas.	Louisiana.	Mississippi.	Alabama.	Florida.	Georgia (part).	South Carolina (part).	North Carolina (part).	Virginia (part).	Lake States.	Michigan.	Wisconsin.	Minnesota.
Group 3 (300,000 to 500,000 acres, fee)—Contd.																							
Virginia & Rainy Lake Co. interests..	321	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	321	......	......	321
Dowling Lumber Co..	317	......	......	......	......	......	......	317	......	......	......	......	......	......	317	......	......	......	......	......	......	......	......
Camp Manufacturing, R. J. & B. F. Camp Lumber, Crystal River Lumber, and Dismal Swamp Land companies....	316	......	......	......	......	......	......	316	......	......	......	......	......	......	282	......	......	5	29	......	......	......	......
Potlatch Lumber, Payette Lumber & Manufacturing, and Drew Timber companies..............	305	305	......	38	......	267	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......
Total, group 3.....	9,911	2,340	286	910	306	725	113	5,505	149	246	697	1,953	565	334	1,524	......	3	5	29	2,066	1,261	294	511
Total, groups 1 to 3.	30,534	13,711	3,375	3,382	3,451	1,125	2,378	12,396	149	817	814	1,991	565	499	6,933	1	3	570	54	4,427	2,947	296	1,184

The 1,802 holders of Table 1 consist of 1,694 holders who own fee acreage; and of 108 who were not reported as having any fee, their land being merely timber rights or not distinguished. Within the limitations of this table, the total fee land of the 1,694 holders is 78,252,000 acres. A considerable number of the 1,694 fee holders also own timber rights and not-distinguished land. These, with the 108 for whom nothing but timber rights or not-distinguished land was reported, have 10,520,000 acres of timber rights and 972,000 acres not distinguished. All the not-distinguished land is in the Southern Pine Region, as is the great bulk of the timber rights.

The average fee holding of the 1,694 holders is over 46,000 acres, which is equal to a tract about 8½ miles square. There are 349 holders who own more than this average and 1,345 who own less.

The largest holding is that of the Southern Pacific Co., which has within the limitations of the table 4,522,000 acres, besides many more millions (see p. 181) outside the timber regions and therefore omitted from the table. The five largest holdings (group 1) have 12,794,000 acres in fee, an average of 2,560,000 acres each. In addition to the Southern Pacific Co., this group includes (see Table 3) the Northern Pacific Railway Co., with 3,196,000 acres in the table, and much more not here counted (see p. 181); the Weyerhaeuser Timber Co., with 1,936,000 acres; the Consolidated Land Co., controlled by the Consolidated Naval Stores Co., with 1,625,000 acres; and the Cleveland Cliffs Iron Co. interests, with 1,515,000 acres. The first three of these holders have their lands in the Pacific-Northwest, the Consolidated Land Co. in Florida, and the Cleveland Cliffs in the Upper Peninsula of Michigan.

In group 2, those owning from a half million to a million and a half acres in fee, there are nine holders totaling 7,829,000 acres. As detailed in Table 3, these nine holders, with the location of their holdings, are as follows:

Southern States Land & Timber Co., with 1,428,000 acres, nearly all in Florida; Empire Land and National Timber companies, with 1,172,000 acres in Florida; Amalgamated Copper Co. interests, with 1,116,000 acres, practically all in Montana; United States Steel Corporation interests, with 965,000 acres, practically all in Minnesota, Michigan, and Alabama; T. B. Walker interests, with 771,000 acres, practically all in California; Florida Coast Line Canal & Transportation Co. interests, with 610,000 acres in Florida; John Paul interests, with 606,000 acres, practically all in Florida; Norfolk Southern Railroad Co., with 590,000 acres, mostly in North Carolina; and The Missouri Pacific Railway Co., with 571,000 acres in Arkansas. The holding of the Norfolk Southern is in the name of the John L. Roper Lumber Co., and that of the Missouri Pacific in the name of the St. Louis, Iron Mountain & Southern Railway Co.

No less than 27 timber holders (group 3) in the timbered part of the investigation area each have between 300,000 and 500,000 acres of fee land. The holdings of each member of this group are shown in Table 3. Taking the remaining groups, 48 holders (group 4) each have between 150,000 and 300,000 acres, fee; 124 (group 5) each have between 75,000 and 150,000; 202 (group 6) each have between 37,500 and 75,000; and 318 (group 7) each have between 18,000 and 37,500 acres. The total fee acreage of the seven groups of holders each of whom has over 18,000 acres fee, reaches the immense amount of 71,521,000 acres. This is owned by 733 holders. Thus, there are no less than 733 timber holders in the investigation area whose fee lands *average* nearly 100,000 acres each (to be exact, 97,573 acres).

Nor is this all. There are 961 holders (group 8) who though each owning less than 18,000 acres fee nevertheless own in the aggregate 6,731,000 acres of fee land, or an average for the entire 961 of 7,000 acres. A tract of 7,000 acres is nearly 3 miles by 4 in extent, practically a third of a township, and it is the equivalent of over 40 homesteads of 160 acres each. This indicates the significance of the fact that in the group of the least important holders included in this table there are nearly 1,000 holders each of whom, on the average, owns in fee enough land to furnish such homesteads, at five persons to the family, for more than 200 persons. This illustration is intended merely to give a concrete idea of size, and is not to be taken as implying that the land involved is necessarily suitable for cultivation.

Of the 972,000 acres not distinguished, only 153,000 are held by holders of over 18,000 acres fee (i. e., known fee), and 819,000 by other holders. If all or a considerable part of these 819,000 acres of not-distinguished land should actually prove to be fee, a number of the holders thereof would be classed in groups owning over 18,000 acres fee.[1]

Of the three regions, the Southern Pine Region is the most important in amount of total fee holdings. The 43,230,000 acres owned in fee in that region by the 835 holders of fee lands are nearly twice the amount owned by the 702 such holders in the Pacific-Northwest and over three and one-half times that owned by the 212 such holders in the Lake States. In order of the average size of land holdings, timber holders in the Lake States stand first, with an average of practically 56,000 acres; and those in the Southern Pine Region second, with about 52,000 acres. In the Pacific-Northwest, despite the enormous size of some holdings there, the average is not quite

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[1] Thus, in the first division of group 8 (those having known fee, but less than 18,000 acres) there are 25 holders who own the 225,000 acres of not-distinguished land. Ten of these holders, owning 156,000 acres out of the 225,000, are holders whose known fee plus their not-distinguished land in each case exceeds 18,000 acres. However, the largest item of not-distinguished land in this total of 225,000 acres is not over 25,000 acres. In the second division of group 8, there are 33 holders who own the 594,000 acres of not-distinguished land; 10 of these, whose holdings in each case exceed 18,000 acres, own, in the aggregate, 316,000 acres out of the 594,000. The largest items of not-distinguished land in this group are one holding of 68,000 acres in North Carolina, and one of 44,000 in Florida.

33,000. If the Southern Pacific Co. and the Northern Pacific were excluded, the average in the Pacific-Northwest would fall to 22,000.

The lower average size of holdings in the Pacific-Northwest is coincident with a much higher average stand of timber in that region. A very large timber holding there may stand on a relatively small acreage.

The States in which timber holders of 60 million feet and over own the largest amounts[1] of fee acreage are Florida (15,523,000 acres); Michigan (6,841,000 acres); Oregon (6,744,000 acres); Louisiana (6,739,000 acres); Washington (6,170,000 acres); California (6,074,000 acres); and Arkansas (4,618,000 acres). In no other State in the investigation area do such holders have as much as 4,000,000 acres. In Florida their holdings amount to over two and one-quarter times as much as in Michigan, the next State in rank. Groups 1 to 3 (holders each owning over 300,000 acres, fee) have in Florida 6,933,000 acres of fee land, whereas in no other State is the total fee acreage of all holders of groups 1 to 8 so large as this figure. Table 3 shows that these 6,933,000 acres in Florida are owned by 11 holders, and 6,470,000 acres thereof by only 8 holders.

Table 2 shows that groups 1 to 3 (comprising 41 holders each owning over 300,000 acres, fee) have in the investigation area 30,534,000 acres, or 39 per cent of the 78,252,000 acres owned by all the 1,694 fee holders. If, from Table 2, a calculation is made of the ratio of the amount owned in each State by groups 1 to 3 to the total in each State, and if the number of holders is counted from Table 3, the results, in order of the percentages, are as follows, for the States having the higher ratios:

TABLE 4.—RATIO OF FEE ACREAGE OWNED IN CERTAIN STATES BY GROUPS 1 TO 3, AND BY HOLDERS SELECTED FROM GROUPS 1 TO 3, TO TOTAL FEE ACREAGE OF ALL TIMBER HOLDERS OF 60 MILLION FEET OR OVER IN THOSE STATES.

States.	Number of holders in groups 1 to 3 owning in State.	Total owned in State by holders of 60 million feet or over.	Per cent owned by groups 1 to 3.	Per cent owned by holders selected from groups 1 to 3.
		Thousands of acres.		
Montana	3	2,524	94	90 per cent owned by 2 holders.
Idaho	8	1,593	71	70 per cent owned by 4 holders.
Minnesota	6	1,802	66	62 per cent owned by 3 holders.
Washington	6	6,170	56	55 per cent owned by 3 holders.
California	6	6,074	56	54 per cent owned by 3 holders.
Oregon	9	6,744	50	49 per cent owned by 6 holders.
Florida	11	15,523	45	42 per cent owned by 8 holders.
Michigan	8	6,841	43	42 per cent owned by 6 holders.
North Carolina	2	1,607	34	33 per cent owned by 1 holder.
Louisiana	11	6,739	30	27 per cent owned by 6 holders.

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[1] That is, the largest amounts within the limitations of the tables. A large part of the Southern Pacific's holding in California, and of the Northern Pacific's, especially in Washington and Montana, are excluded here.

Some of the intermediate groups have, in the aggregate, very large acreages. In the case of the Louisiana groups 4, 5, and 6, the Arkansas groups 5 and 6, and the Michigan group 5, each group has over one million acres of fee land. In Florida groups 4, 5, and 6 each have well over two million acres, while group 7 has one and a third million. In Oregon and in Washington, where the average stand of timber is very high, many holders have over 60 million feet and yet have comparatively small acreages; in each of these two States the holders in group 8 (less than 18,000 acres) have, in the aggregate, over 1,000,000 acres of fee land.

The situation in Florida and in Michigan as regards the land holdings of timber owners is shown in separate chapters, in more detail than is possible here. In Michigan the discussion covers the Upper Peninsula, where lie 5,999,000 acres out of 6,841,000 owned in the State by holders of 60 million feet of timber or over. A map of the Upper Peninsula shows the location of the holdings of over 40,000 acres each. In Florida the discussion covers the entire State. The Florida tables are on a somewhat different basis from those in the present chapter, in that the holdings are differently grouped and include all reported holdings of timber owners over 10,000 acres in extent and a few large holdings composed entirely of nontimbered land. The tables also contain later data, as of 1912, on part of the holders. These chapters take up briefly the Federal and State land grants for railroads, canals, and drainage, as especial causes of the present concentration of land ownership that has attended the concentration of timber ownership in these States.

Section 4. Further large land holdings of certain timber owners.

It has been made clear that the tables of the foregoing section were limited to the land which large timber holders own in those portions of the investigation area that are, broadly, within the timber belt. In this way the tables were confined to what the Bureau had specifically investigated. But in the case of five large land-grant timber holders the Bureau ascertained, chiefly from published sources, the total amounts of land held, including what they held in timberless portions of the investigation area and outside the investigation area. Part of their lands outside the investigation area are doubtless timbered, but in the main they are not. The totals of these few important holdings are stated in this section, and the acreages owned by them, but excluded from the previous tables, are shown. Though the subject is only incidental to the Bureau's purpose, the excluded acreages are so large in amount that they are of very considerable interest.

The five holders referred to are the Northern Pacific, whose excluded lands are mostly in eastern Oregon, eastern Washington, and central and eastern Montana; Union Pacific and Southern Pacific, whose excluded lands are mostly in southern California and the central Rocky Mountain States; the Atchison, Topeka & Santa Fe, with very large excluded holdings mainly in Arizona and northwestern New Mexico; the Great Northern Railway Co., with excluded holdings in northwestern Minnesota; and the Oregon & Western Colonization Co., with excluded holdings in eastern Oregon. The total acreage of these five holders, including what has been excluded from the previous acreage tables, is summarized as follows, the figures being in round thousands:

TABLE 5.—TOTAL ACREAGE OF FIVE LARGE LAND-GRANT HOLDERS, INCLUDING ACREAGE NOT COUNTED IN FOREGOING TABLES.

[In thousands of acres. Thus, 9,950=9,950,000 acres.]

Holders.	Total acreage.	Counted in tables.	Not counted in tables.
Northern Pacific Ry. Co.	9,950	3,196	6,754
Union Pacific R. R. Co.[1]	14,855	4,522	10,333
Union Pacific R. R. Co.	975	....	975
Southern Pacific Co.[2]	13,880	4,522	9,358
Atchison, Topeka & Santa Fe Ry. Co.	9,653	51	9,602
Great Northern Ry. Co.	257	86	171
Oregon & Western Colonization Co.	700	214	486
Total	35,415	8,069	27,346

[1] On Dec. 2, 1912, the Supreme Court of the United States declared the Union Pacific-Southern Pacific merger illegal.

[2] In 1909 the total acreage owned by the Southern Pacific was 14,408,217. The acreage stated in the table above is that owned on June 30, 1910. (See Pt. I, p. 233 and note.)

Section 5. Summary of fee holdings of large timber owners.

The summary of the total fee acreage of the 1,694 large timber holders owning lands in fee within the limitations of Table 1 appears in that table on page 165. Their total fee holdings in that table—that is, their fee holdings of timberlands and of lands owned in connection with or in the vicinity of their timberlands—amount to 78,252,000 acres.

If to this acreage there were added the 27,346,000 acres just noted as not counted in the Bureau's tables, it would be found that the fee holdings of these 1,694 holders, so far as known to the Bureau, reach the total of 105,598,000 acres or roundly 105,600,000 acres. The 733 holders each owning over 18,000 acres have 98,867,000 acres. Out of the entire 105,600,000 acres, 43 holders (those of over 300,000 acres each) own more than 57,700,000; that is, 43 own 55 per cent of what all the 1,694 own. The 43 average approximately 1,340,000 acres apiece. There are 16 of these 43 (those of over 500,000 acres each) who own 47,800,000 acres, or an average of almost 3,000,000 acres.

Six of these 16 (those over 1,500,000 acres each) own 39,480,000 acres, or an average of 6,580,000 acres. Finally, 3 holders—the great land-grant railroads, the Southern Pacific (omitting the Union Pacific), the Northern Pacific, and the Santa Fe—have, in round numbers, 33,500,000 acres, the 3 averaging over 11,000,000 acres each.

The immensity of these figures requires illustration. The 33,500,000 acres of the three railroads just mentioned is an area equivalent to that of England, and is sufficient to provide every family in England with 4 or 5 acres of land. These railroad lands lie mainly in the nine States of California, Nevada, Utah, Oregon, Washington, Idaho, Montana, New Mexico, and Arizona, and would provide 15 acres for every male person over 21 years of age in these States. The 47,800,000 acres owned by 16 holders are equivalent to practically ten times the land area of New Jersey. The 43 holders, with their 57,700,000 acres, have nearly the area of the States of New York and Pennsylvania. The 733 holders, with their 98,867,000 acres, have an area greater than Italy and Switzerland combined; or as great as the combined areas of West Virginia, Ohio, Indiana, Kentucky, and one-third of Tennessee. The 1,694 holders, with their 105,600,000 acres, own the equivalent of four-fifths the area of France; or more than the entire State of California. They have more than one-twentieth of all the land in the United States from the Canadian to the Mexican border. Taking only the States and parts of States in the investigation area, and those States into which the great railroad holdings extend, one finds that these 1,694 holders own one-tenth of the land in the immense area in those States and parts of States.

Or, if one reverts to the 78,252,000 acres of fee land that the 1,694 own within the limitations of Table 1, and takes for comparison, not the total investigation area, but simply the total area of the 900 or more counties in which lies the timber covered by the Bureau's investigation, ruling out those counties of the investigation area in which there is no private timber, he will find that out of a total of 541,588,000 acres in those counties (154,130,000 acres timbered[1] and 387,458,000 nontimbered) the 1,694 timber holders have no less than one-seventh.

Section 6. Power resulting from concentration of land ownership.

That a substantial control of the land situation and of transportation throughout a large timber region gives a far-reaching power over the industrial development of the territory hardly needs argument. Such control of the land even without the support of a transportation monopoly, though less powerful than with such support, is of great significance. The effect of such control may be to unduly retard the development of the lumber industry within its territory, and to unduly influence other economic activities. Moreover, those who exercise economic control in this fashion are likely to seek also political control in order to make their position more secure.

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[1] Part I, p. 163.

Some indication of the power resulting from land monopoly in a large part of western Oregon, the most important timber region in the United States, is given by the following facts: In this region the Southern Pacific has not only 1,907,236 acres of land bearing merchantable timber, but also 172,045 acres of additional land, and 293,000 acres of unpatented land claimed. In 1907 the legislature of Oregon presented a memorial to Congress complaining that the terms of the land grant to the Oregon & California Railroad Co. (controlled by the Southern Pacific) had been violated by refusal to sell lands to settlers in 160-acre tracts, and stating as the result of this illegal policy that "the development and material prosperity of the State is retarded." In the Government's argument in the suit instituted as a result of this memorial the following statement is made on this point:

> On or about January 1, 1903, all of these unsold lands were withdrawn from sale, and the railroad company has since refused to sell any part thereof to actual settlers or otherwise, although thousands of applications to purchase have been made by parties desiring to use the lands applied for, for the purpose of actual settlement. * * * In this manner, ever since the 1st day of January, 1903, a land monopoly has been maintained for the selfish uses and purposes of the Southern Pacific Co., enabling it, among other things, to control the commercal and industrial development of the territory tributary to said railroad, and thereby prevent the establishment of competing lines of railroad. *A monopoly of transportation has become intrenched by a virtual monopoly of production.* The normal commercial and industrial development of the territory in which the unsold lands are situated has been seriously retarded, if not completely checked.[1]

Quite apart from the alleged illegality of the Southern Pacific's management of its land grants there is no question that by its land and transportation monopoly it exercises tremendous power over the commercial development of the timber and other natural resources in a great part of western Oregon. The same thing is true in California, where the Southern Pacific is commonly alleged to have for years controlled politics.

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[1] U. S. v. Oregon & California R. R. Co., et al. on hearing of demurrers of defendants, Oregon & California R. R. Co., Southern Pacific Co., and Stephen T. Gage, trustee. Argument on behalf of the United States. (In the circuit court of the United States for the district of Oregon. Ninth judicial district. In equity, No. 3340. p. 23.)

The ownership of a large proportion of the land, especially in alternate sections, is bound to give opportunity for monopoly. In Washington and Idaho the Weyerhaeuser Timber Co. and several other timber companies which Mr. Weyerhaeuser and his close associates control have a formidable land power; and if taken together with the Northern Pacific Railway Co., from which a large part of their lands was acquired, they have a substantial monopoly of land in the particular regions where their holdings lie. There seem to be some indications, so far as concerns the important timbered parts of Washington and Idaho traversed by the Northern Pacific, that the railway company and the timber companies referred to follow land policies entirely in harmony with each other.

OFFICIAL CRUISES OF TIMBERLANDS FOR TAXATION PURPOSES.—An invasion of the political field by powerful landed interests is especially to be feared when it touches the vital matter of taxation. Its effect is felt in various phases of taxation, but illustrations may be conveniently shown from the taxation of timber.

It is notorious among timbermen and timber cruisers of Oregon that timberlands in that State have been very much underestimated for taxation; and that when official county cruises of timber were made for the purpose of taxation, though the result increased greatly the previous assessments, yet the true amount of timber was far more than the amount shown by the official cruises—frequently two or three times the amount. In Washington, where in the last six or seven years official cruises have been made in almost all of the timbered counties, the cruises are not so far under the truth as in Oregon, but in most counties even in Washington the official cruises fall much below the real amount of timber.

The Bureau has made careful comparisons in a large number of cases in both Washington and Oregon between the amount of timber reported to the Bureau by the large timber owners themselves, and the amount shown for the same lands by the county cruise. Since each timber owner reported to the Bureau the date when his cruise was made, it was possible to compare the county cruise with the cruises of owners who had up-to-date estimates. The following table shows the broad results of these comparisons in the State of Washington. The first column shows the number of holdings on which comparisons of any extent were made; the second column shows what percentage of the total county cruise was compared with the recent private cruises reported by timber owners. The third and fourth columns show the actual comparisons with these recent cruises, the amounts of timber on identical lands according to the county cruise and according to the timber owners themselves. The last column shows the ratio which the recent private cruises bear to the official cruise.

TABLE 6.—COMPARISON OF RECENT TIMBER CRUISES BY OWNERS AND THOSE MADE BY COUNTY OFFICERS ON IDENTICAL LAND IN 10 COUNTIES OF WASHINGTON.

[In thousands of feet, log scale. Thus, 1,840,829 M feet=1,840,829,000 board feet.]

Counties.	Number of holdings compared.	Per cent of total county cruise covered by comparisons.	Amount of timber on holdings compared—		Ratio of owners' cruise to county cruise.
			According to county cruise.	According to owners' cruise.	
		Per cent.	*M feet.*[1]	*M feet.*[1]	
Cowlitz	10	14.5	1,840,829	2,986,578	1.62
King	8	13.4	1,452,890	2,478,273	1.71
Lewis	7	14.8	2,936,573	3,837,748	1.31
Pacific	3	3.3	359,875	535,962	1.50
Pierce	4	8.4	918,856	1,546,138	1.68
Skagit	13	20.2	2,339,268	3,637,339	1.55
Snohomish	11	8.9	842,510	1,748,703	2.08
Thurston	2	8.0	131,193	276,124	2.11
Wahkiakum	4	12.1	327,901	704,800	2.15
Whatcom	8	17.3	584,841	1,[illegible],217	2.16
Total	70	12.5	11,734,825	19,002,942	1.62

[1] Log scale.

In the 10 counties covered (and they are among the most important timbered counties of the State) the up-to-date private cruises of owners (so far as compared) vary from 31 per cent higher to 116 per cent higher than this county cruise. In Lewis County, for example, the cruise of the private holders is not quite one-third more than the county cruise. In Whatcom County, on the other hand, the cruises of private holdings compared amount to more than twice the county cruise on the same land. The average in the 10 counties is 62 per cent higher than the county cruises.

At first glance it might appear that the comparison here given has too slight a base (12.5 per cent of the total) to give broad value to the result; but the comparison embraces almost all the most important companies who reported up-to-date cruises to the Bureau in these counties.[1] The table covers one-eighth of the entire official cruise of these 10 counties; and on this one-eighth the cruise of the owners themselves is over 60 per cent higher than the cruise of the county officers. This comparison, it should be observed, is on the basis of log-scale estimates. For the holdings compared, the mill output of lumber would be greater by about 20 per cent. (See Part I, p. 61.) Thus, the mill output of the 70 holdings compared would be about 95 per cent higher than the log-scale county cruise.

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[1] Old cruises on part or all of their holdings were furnished by several of the largest holders in Washington, including among others the Weyerhaeuser Timber Co., Northern Pacific Ry. Co., Puget Mill Co., Sound Timber Co., St. Paul & Tacoma Lumber Co., etc., but they proved so far out of date that the Bureau sought information from outside sources for present-day estimates on them. (For Weyerhaeuser Timber Co., and Northern Pacific Ry. Co., see Part I, pp. 59-60.) Comparisons excluded from the above table on this account would cover not far from 50 per cent of the total official cruise in the 10 counties. Besides, no comparison was possible for the Bureau between the county cruise on small unenumerated holdings and any private cruises on the same. For these reasons, it should be clearly understood that the detailed comparisons with recent cruises in this table, though in the total amounting to only 12.5 per cent, yet form a very large proportion of all that the Bureau could possibly have made.

In Pacific County only 3 per cent of the total county cruise was compared with recent cruises of timber owners. This was due to the fact that at the time comparison was made the county had cruised only about half the timber in the county. The Bureau's reports of private cruises usually cover all the timber owned by a given holder in the entire county, and for this reason it was impossible to make comparisons in most cases except where the county had at that time cruised all the land of a given holder. Hence, the comparisons for Pacific County in this table amount to only about 6 per cent even of the cruise then available, and only 3 per cent of the completed cruise. The same general situation prevailed in Thurston County, since only part of the county was cruised in such manner that comparisons could be made.

The following table shows, for the counties included in Table 6, above, the assessed value of timberland in 1910, the actual value in 1908, as estimated by the State Board of Tax Commissioners, and the ratio of the latter value to the former:

TABLE 7.—ASSESSED VALUE OF TIMBERLAND IN CERTAIN COUNTIES OF WASHINGTON IN 1910, ESTIMATED ACTUAL VALUE IN 1908, AND RATIO OF THE LATTER TO THE FORMER.

Counties.	Assessed value, 1910.[1]	Estimated actual value, 1908.[2]	Ratio of estimated actual value to assessed value.
Cowlitz	$4,161,819	$11,503,430	2.76
King	5,242,900	14,274,506	2.72
Lewis	8,190,000	21,668,411	2.65
Pacific	4,708,145	15,252,767	3.24
Pierce	7,802,600	18,868,004	2.42
Skagit	3,220,595	13,806,200	4.29
Snohomish	5,955,910	12,163,344	2.04
Thurston	2,158,427	11,296,136	5.23
Wahkiakum	1,014,596	2,906,843	2.86
Whatcom	1,935,520	3,758,250	1.94
Total	44,391,112	125,499,891	2.83

[1] From Third Biennial Report of the State Board of Tax Commissioners of Washington, Appendix B, p. 90.

[2] From Second Biennial Report of the State Board of Tax Commissioners of Washington, Appendix A, p. 96. The method of arriving at these values is given as follows in Third Biennial Report of the State Board of Tax Commissioners of Washington, pp. 10, 11: "The tax commission first caused a list of transfers to be made in each county, describing the property conveyed therein during the preceding twelve months, giving the names of grantor and grantee and showing the consideration. These lists formed the basis for the interrogation of witnesses examined concerning the value of property. Sessions of the Board were held in each county, and all told eight hundred and eighty-five witnesses were examined under oath as to the actual price paid for property changing hands during the preceding twelve months. Stenographic records were made of this testimony, from which lists describing the property concerning which testimony was taken were made and forwarded to the county auditors, who were required to certify the assessed value of each description as equalized by county boards. Upon the return of these lists the actual values as shown by sworn testimony were extended on them and the ratio of assessed to actual values were computed."

In a general way the conclusions of the State Board of Tax Commissioners confirm those of the Bureau. The differences of result are due in part to the fact that the Bureau considered only the underestimates of the quantity of timber, while the board of tax commissioners considered total value. Their correction covered both underestimates of quantity and underassessments of value per thousand.

Their estimate of true value in 1908 was 2.83 times the assessed value in 1910, for the counties in question, while the Bureau's table indicates a quantity of timber 1.62 times as great as that assessed.

Even the assessed values, beginning with 1908, have been much larger than those of earlier years, apparently because of the county cruises and the activity of the State Board of Tax Commissioners. The average assessment of timberland in 1910 was $13.59 an acre, and in 1908 $12.91 an acre. The board states that the latter amount is "113 per cent over the assessed valuations of timbered land for the preceding year," and that, according to the best determination the board can make, the average in 1905 was $4.88 an acre.[1]

The facts stated in the present section are not intended as a discussion of the taxation of timber, but merely as an illustration of the tendency to undertaxation that is found as one of the evils accompanying great concentration in the ownership of land. At the time of the Bureau's inquiry probably none of the States in the investigation area had done nearly as much as the State of Washington in trying to ascertain the true amount and value of its taxable timber, and even in that State both the official cruises and the valuations still appear to be much too low.

SUMMARY.—The holding of timberland and other land in immense blocks far beyond the amount necessary for economy in the development of its resources has injurious effects that go much deeper than the mere evading of just taxation. It retards the natural development of great timber regions in some of our States till the time when development (not merely the lumbering, but other or subsequent industrial growth) may be directed to the greatest profit of the large owners. It is only as a means to this end that they seek to keep taxation at the lowest possible point in order that they may not be forced to put their land into use before the point of greatest profit is reached. Individual initiative and energy are thus checked in many communities, and opportunities that would naturally open on every side are closed to the man of average means. When development is allowed to take place, the power afforded by the great landholdings gives their owners advantages that enable them, in effect, to tax the development itself and to still further increase the inequalities of the distribution of wealth.

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[1] Second Biennial Report of the State Board of Tax Commissioners, pp. 26, 27. Third Biennial Report of the State Board of Tax Commissioners, p. 12.

CHAPTER III.

CONCENTRATION OF LAND OWNERSHIP IN UPPER PENINSULA OF MICHIGAN.

Section 1. General description of Upper Peninsula of Michigan and of ownership map.

The total land surface of the Upper Peninsula of Michigan is over 10,680,000 acres. About 56 per cent of this area is held by 90 timber owners. Thirty-two owners hold 47 per cent of the area; 13 hold 37 per cent; and 1 holds 14 per cent.

There is more timber left in the State of Michigan than in any of the other Lake States, and much the greater part lies in the Upper Peninsula. The Upper Peninsula, however, has passed the point of its greatest lumber production, though it probably will long continue to supply a moderate amount of timber. A very large proportion of the peninsula has been cut over for pine timber; and a considerable proportion has been cut over again for hemlock and hardwoods. There still remain stands of hemlock and hardwoods as heavy as 8,000 to 10,000 feet or more per acre over large tracts, and these species now command very high stumpage prices.

The copper and iron deposits of the Upper Peninsula are probably more important resources than the timber. The "copper range," which forms the backbone of the Keweenaw peninsula, is the region where the great copper mines are located. Iron mining is carried on extensively in the three great iron ranges in the western half of the Upper Peninsula—The "Marquette range," for which Marquette is the shipping port; the "Menominee range," for which Escanaba is the chief shipping port; and the "Gogebic range," in the extreme west, for which Ashland, Wis., is the shipping port. The copper and iron ranges were originally covered with timber, and to a considerable extent are still timbered. Altogether, the Upper Peninsula furnishes a striking illustration of concentration of the ownership of land attending the acquisition of such special resources as timber and ore.

Opposite page 216 is an ownership map which covers practically the entire Upper Peninsula, stretching east and west over 300 miles.

The Keweenaw peninsula which projects into Lake Superior is shown as an inset and placed in the lower left-hand corner. The map does not cover Drummond Island, lying to the east in the waters between Lake Huron and Lake Superior; Isle Royale, lying far to the north in Lake Superior; nor the southern point of Menominee County (from township 35 N. southward) between Green Bay and Menominee River. The scale of the map is the same as those given in Part II. The Michigan meridian crosses the peninsula near the eastern end.

The solid black symbol on the map represents the lands of the Cleveland Cliffs Iron Co. and its various subsidiaries. The crosshatch represents lands of a group of 12 timber owners each of whom has over 100,000 acres in the Upper Peninsula. The double light diagonal indicates the holdings of a group of 19 timber holders each of whom owns lands in the Upper Peninsula ranging in amount from 40,000 acres to 100,000 acres.[1]

The map is primarily a map of land holdings owned or leased by timber owners. The first tables will be devoted to acreage only. The timber owned by the same groups of holders is set forth in a later table (p. 215).

As a matter of fact many of the larger tracts in the Upper Peninsula are owned by companies chiefly interested in holding ore deposits or in mining. With these companies the timber is of secondary importance, having been acquired with the surface of the ore lands, or for a timber reserve in connection with mining operations as much as for commercial exploitation.

Section 2. Concentration of ownership of land by important timber holders in Upper Peninsula.

The following table shows the total land holdings (including timber rights) held in the Upper Peninsula by the 90 timber owners who have as much as 60 million feet of timber each, and the percentage of the total area of the Upper Peninsula held by the various groups into which these 90 holders are divided. The acreage of timber rights is relatively insignificant, and the fee under these timber rights is in many cases owned by large landholders. The grouping in the table is based on the size of land holdings (both fee and timber rights) in the Upper Peninsula. The definition of "important timber owners," as used in the section head above, is timber owners who have each as much as 60 million feet of timber in the investigation area. The smaller holdings included in this classification range upwards from

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[1] One concern having somewhat less than 40,000 acres in the Upper Peninsula was included in this group because, with its lands in the Lower Peninsula, its aggregate holding in the State is over 55,000 acres.

7,000 acres, this minimum being equivalent to about one-third of a solid township. To take the opposite extreme—if the holding of the Cleveland Cliffs Iron Co. and its subsidiaries were in the form of a solid square, it would cover nearly 66 townships and the distance around it would be nearly 195 miles.

TABLE 8.—TOTAL LANDHOLDINGS (INCLUDING TIMBER RIGHTS) HELD IN UPPER PENINSULA OF MICHIGAN BY TIMBER OWNERS OF OVER 60 MILLION FEET EACH AND BY ALL OTHERS.

Landholders.	Number of holders.	Total acreage owned in Upper Peninsula.[1]	Per cent of total area of Upper Peninsula.
(1) Holders of over 60 million feet of timber each (grouped according to size of landholding, including timber rights, in Upper Peninsula):			
Platted holders—			
Cleveland Cliffs Iron Co.	1	1,515,392	14.2
First group, 12 holders of over 100,000 acres each	12	2,413,794	22.6
Second group, 19 holders of from 40,000 to 100,000 acres each	19	1,095,497	10.3
Total, platted holders	32	5,024,683	47.1
Unplatted holders—			
27 holders of from 15,000 to 40,000 acres each	27	625,274	5.8
31 holders of less than 15,000 acres each and over 60 million feet of timber each	31	349,069	3.3
Total, unplatted holders	58	974,343	9.1
Total, all holders of over 60 million feet of timber each	90	5,999,026	56.2
(2) All other landholders in Upper Peninsula	....	4,683,214	43.8
Total area of Upper Peninsula	....	10,682,240	100.0

[1] The figures in this column include 244,977 acres reported as timber rights as follows: Members of first group of 12 platted holders, 98,103 acres; second group of 19 platted holders, 84,511 acres; the two groups of unplatted holders of over 60 million feet of timber, 62,363 acres.

The foregoing table shows the proportion of the entire land area of the Upper Peninsula in the hands of 90 large timber holders, viz, 5,999,026 acres out of 10,682,240. The following table shows what percentage of the 5,999,026 acres held by the 90 holders is held by each of the groups going to make up the 90:

TABLE 9.—TOTAL LANDHOLDINGS IN UPPER PENINSULA OF MICHIGAN HELD BY TIMBER OWNERS OF OVER 60 MILLION FEET EACH.

Holders of over 60 million feet of timber each (grouped according to size of landholding, including timber rights, in Upper Peninsula).	Number of holders.	Total acreage owned in Upper Peninsula.[1]	Per cent of this total owned by each group.
Platted holders:			
Cleveland Cliffs Iron Co.	1	1,515,392	25.3
First group, 12 holders of over 100,000 acres each	12	2,413,794	40.2
Second group, 19 holders of from 40,000 to 100,000 acres each	19	1,095,497	18.3
Total, platted holders	32	5,024,683	83.8
Unplatted holders:			
27 holders of from 15,000 to 40,000 acres each	27	625,274	10.4
31 holders of less than 15,000 acres each and over 60 million feet of timber each	31	349,069	5.8
Total, unplatted holders of over 60 million feet of timber each	58	974,343	16.2
SUMMARY.			
Platted holders	32	5,024,683	83.8
Unplatted holders of over 60 million feet of timber each	58	974,343	16.2
Total, all holders of over 60 million feet of timber each	90	5,999,026	100.0

[1] The figures in this column include 244,977 acres reported as timber rights as follows: Members of first group of 12 platted holders, 98,103 acres; second group of 19 platted holders, 84,511 acres; the two groups of unplatted holders of over 60 million feet of timber, 62,363 acres.

The above tables show the reported acreage of the "platted holders" in the Upper Peninsula, but not all this acreage appears on the map. In those parts not covered by the map (see p. 189) the platted holders have lands amounting to about 25,000 acres. Besides, in cases amounting to approximately 49,000 acres no plats were secured for part of a company's holdings in some one county. Again, there are cases, aggregating about 96,000 acres, where the plats furnished by a company, when counted up, were found to fall far short of the acreage which the company stated it owned. The total amount reported by the platted holders but not appearing on the map is about 170,000 acres, distributed as follows among the three groups of platted holders:

	Acres.
Cleveland Cliffs Iron Co.	85,000
First group of platted holders	16,000
Second group of platted holders	69,000
Total	170,000

Section 3. Holding of Cleveland Cliffs Iron Co. interests in Upper Peninsula. (Map symbol, solid black.)

The Cleveland Cliffs Iron Co., with its subsidiary companies, owns in the Upper Peninsula 1,515,392 acres. This is 14.2 per cent of the total area of the Upper Peninsula and 25.3 per cent of the acreage held in the Upper Peninsula by timber owners of over 60 million feet each.

The various companies and holdings combined in the above figures for the Cleveland Cliffs Iron Co. interests comprise the Cleveland Cliffs Iron Co., the Upper Peninsula Land Co., and 12 other subsidiary companies and holdings. Hereafter when the Cleveland Cliffs Iron Co., or the Cleveland Cliffs, is spoken of, unless the contrary is specified, the name should be understood to mean the interests of this company including the Upper Peninsula Land Co. and the various subsidiaries just referred to.

Emphasis should be laid upon the fact that the map and the tables credit all acreage on which timber rights are owned to the owner of the timber rights, not to the owner of the fee. The Cleveland Cliffs Iron Co. is reported as owning the fee to certain lands on which other companies report themselves as owning the timber rights. Besides, it is reported as owning the fee to certain lands which are also reported by other holders as owned by them in fee, or as timber rights, or not clearly distinguished as between fee and timber rights. (These holders of not-distinguished lands reported the ownership of given acreages of fee and of timber rights; but did not distinguish, on the plats furnished, which lands were fee and which timber rights.) In making the tabulation the Bureau has treated the fee or the timber rights on these lands as if sold to the other companies, and the land is credited to them instead of to the Cleveland Cliffs. The amount thus in conflict in the three classes just referred to is 136,493 acres, and its distribution is shown in the following table:

TABLE 10.—LANDS REPORTED AS OWNED IN FEE BY CLEVELAND CLIFFS IRON CO. INTERESTS BUT CREDITED TO OTHER HOLDERS.

Holders to whom credited, by groups.	Reported by holder to whom credited—			Total.
	As fee.	As timber rights.	Without distinction of tenure.	
Platted holders:	*Acres.*	*Acres.*	*Acres.*	*Acres.*
First group of 12	21,940	....	3,240	25,180
Second group of 19	57,564	680	10,540	68,784
Unplatted holders:				
Of over 60 million feet	12,920	21,449	....	34,369
Of less than 60 million feet	480	7,680	....	8,160
Total	92,904	29,809	13,780	136,493

The amount here shown as credited to the first and second groups of platted holders (about 94,000 acres) is platted to them on the map and not to the Cleveland Cliffs.

On the other hand, it should be stated that the Cleveland Cliffs Iron Co. since the date of its original report has sold in fee to the I. Stephenson interests, a member of the first group of 12 platted holders, about 43,000 acres which the Bureau had no way of distinguishing from the company's unsold lands. Consequently, these 43,000 acres are platted on the map with the solid black symbol of the Cleveland Cliffs. In the tables, however, they have been credited to the first group, and not to the Cleveland Cliffs.

Character of Cleveland Cliffs Iron Co.'s holding.—Much of the company's timbered land has no doubt been cut over for pine. Over 270,000 acres of its holding do not at present bear any merchantable timber, but consist of mining properties and a large acreage of burned, cleared, and barren lands. In addition, the Upper Peninsula Land Co. (Ltd.), which is controlled by the Cleveland Cliffs Iron Co. interests, owns a considerable amount of cut-over land. In this subsidiary's report to the Bureau, however, practically no distinction was made between cut-over land and merchantable-timber land. Though the Cleveland Cliffs land as a whole bears a relatively light stand of timber per acre, yet its ownership by one interest is of great importance, not only because it constitutes the largest single timber holding in the Lake States, but also because almost all of it is suitable for the reproduction of timber and because part of it is of value as mineral land. The control of timberland which will furnish the necessary supply of mining timbers is of importance in connection with the ownership of ore properties.

Section 4. Holdings of first group—12 platted holders—in Upper Peninsula. (Map symbol, heavy crosshatch.)

The first group of 12 platted holders consists of holders each owning 100,000 acres or over in the Upper Peninsula. Their aggregate total there (including timber rights [1]) is 2,413,794 acres. This is 22.6 per cent of the total area of the Upper Peninsula, and 40.2 per cent of the amount owned in the Upper Peninsula by the 90 timber holders of over 60 million feet each. The largest of these 12 holdings is 365,000 acres. Their average size would be about 200,000 acres, an area equivalent to 312½ square miles, or about 9 solid townships, a square slightly less than 18 miles each way.

The members of this group are The Keweenaw Association (Ltd.); The Michigan Iron & Land Co. (Ltd.); I. Stephenson interests (I. Stephenson Co. and Ford River Lumber Co.);[2] J. M. Longyear et al.; Detroit, Mackinac & Marquette Railroad Co.; Chicago & North Western Railway Co.; estate of J. C. Ayer; United States Steel Corporation (holding here in the name of the Oliver Iron Mining Co.); Calumet & Hecla Mining Co. and subsidiaries; Bay de Noquet Co. (a subsidiary of the Oconto Co., which has holdings in Wisconsin); Worcester Lumber Co. (Ltd.); and Lake Superior Iron & Chemical Co.

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[1] 98,103 acres. See Table 8, p. 190.

[2] In Wisconsin, the I. Stephenson interests control the N. Ludington Co.

INTERRELATIONS.—Three of the largest of these holders, the Keweenaw Association (Ltd.), the Michigan Iron & Land Co. (Ltd.), and J. M. Longyear et al., though counted as separate by the Bureau, are nevertheless closely connected in the sense that Mr. Longyear is land agent of the Keweenaw Association and chairman and one of the managers of the Michigan Iron & Land Co. (Ltd.). Mr. Longyear is also an officer of or agent for a number of other holders counted as separate. These are "The Albany Pool," one of the members of the second group of 19 platted holders; and the following unplatted holders: The Kimberly Iron Co., Gogebic Land & Iron Co., The Newport Land Co., and Porcupine Land Association (Ltd.). The total area owned in the Upper Peninsula by the separate holders with which Mr. Longyear is thus associated is no less than 965,000 acres. Frederick Ayer of the Ayer estate is owner with Mr. Longyear of 31,431 acres included in the holding of J. M. Longyear et al.

The subsidiaries controlled by the Calumet & Hecla Mining Co. through its ownership of a majority of their stock are as follows:[1] Frontenac Copper Co., Centennial Consolidated Mining Co., Dana Copper Co., Gratiot Mining Co., La Salle Copper Co., Manitou Mining Co. (including New Jersey mine), St. Louis Copper Co., Superior Copper Co., Laurium Mining Co., and Seneca Mining Co.

Besides, the Calumet & Hecla Mining Co. owns a strong minority stock interest in the Tamarack copper mining concerns,[1] comprising the Tamarack Mining Co., Ahmeek Mining Co., Osceola Consolidated Mining Co., and Isle Royale Copper Co. These four Tamarack companies are closely allied to each other, and they constitute one of the holders in the second platted group of 19. The officers and directors in these Tamarack companies are also in most cases the officers and directors of the Calumet & Hecla Mining Co. and its subsidiaries.

The Calumet & Hecla also owns 42.9 per cent of the stock of the Allouez Mining Co., with about 3,000 acres of land. All but one of the officers and directors of the Allouez are also officers and directors of the Calumet & Hecla. In the tables the Allouez is not included with either the Calumet & Hecla or the Tamarack and its land is not platted on the map.

In 1911 a merger was proposed of the various Calumet & Hecla and Tamarack properties, including also the Allouez; but proceedings in equity were instituted to prevent the consummation of the plan, and the proposal for the formal merger of the properties was finally withdrawn by the management.

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[1] Moody's Manual, 1910, p. 3222.

FEE HOLDINGS ON WHICH TIMBER RIGHTS HAVE BEEN SOLD.—It has been seen that the Cleveland Cliffs apparently owns the fee of a considerable acreage credited on the map and in the tables to other companies. The same situation seems to prevail as regards some of the companies in the first group of platted holders. For instance, the Keweenaw Association owns the fee of 30,176 acres of land on which it has sold the timber to the Calumet & Hecla. Though the Bureau's reports are not explicit on the point, the indications are that in addition to the lands credited to them some of the companies in this group retain the fee of other lands on which timber rights have been sold. In part of these cases, however, the fee itself may have been sold.

It is highly probable that a careful investigation of the fee tenure in the Upper Peninsula would reveal an appreciably greater degree of concentration of land ownership than appears from the Bureau's tables, which are based on fee tenure modified by ownership of timber rights. In view of the valuable mineral character of much of the land in this region, the retention of the fee has special significance. The Detroit, Mackinac & Marquette Railroad, in addition to the land mapped to it and counted to it in the tables, has retained the mineral rights in 98,719 acres in Marquette County [1] of which it has sold the surface, or at least the timber; and the Keweenaw Association likewise has 8,470 acres of such mineral rights.

Only 3 of the 12 holders in this group are actively engaged in manufacture of lumber. These 3 are the Isaac Stephenson companies, the Bay de Noquet Co., and the Worcester Lumber Co. (Ltd.). In this connection it should be noted by the list of members of this group that at least 4 out of the 12 members are actively engaged in mining or own iron or copper properties.

The 43,000 acres which the I. Stephenson interests have recently bought from the Cleveland Cliffs, but which are platted on the map to the Cleveland Cliffs, have already been referred to (p. 193).

The Calumet & Hecla Mining Co. owns one tract of 35,857 acres (lying in the eastern part of the peninsula, mostly in townships 48, 49, and 50 N., ranges 6 and 7 W.) for which the Bureau obtained no plats of exact location. The bulk of this company's land, however, lies in the western part of the Upper Peninsula and is platted on the map.

Section 5. Holdings of second group—19 platted holders—in Upper Peninsula. (Map symbol, double light diagonal.)

The second group of platted holders consists of 19 separate holders owning from 40,000 to 100,000 acres each in the Upper Peninsula. These 19 own (including timber rights [2]) 1,095,497 acres in the Upper

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[1] Moody's Manual, 1911, p. 2925.

[2] 84,511 acres. See Table 8, p. 190.

Peninsula. This is one-tenth of the entire area of the peninsula and nearly one-fifth of the amount owned by all the 90 holders of over 60 million feet each. The 12 members of the first group own more than twice as much land as the 19 of the second, and the Cleveland Cliffs Iron Co. alone has nearly 40 per cent more than all 19. The average size of holding in the second group is between 57,000 and 58,000 acres. One of the holders, as explained above, has somewhat less than 40,000 acres in the Upper Peninsula, but has been included because of having 55,000 acres in the State.

The group is made up of the following holders: St. Mary's Mineral Land Co.; Sawyer-Goodman interests; G. F. Sanborn Co.; South Shore Land Co. (Ltd.); Wisconsin Land & Lumber Co.; Northwestern Cooperage & Lumber Co.; Escanaba Lumber Co.; Tamarack Mining Co. and subsidiaries; S. Crawford & Sons; Chicago Lumbering Co. of Michigan (with which the Wheeler interests, owning very large amounts of timber in the Pacific-Northwest, are prominently identified); Hull-Longnecker Lumber Co., Smith & Hull Co., and Oval Wood Dish Co.; Charles Hebard & Sons (Inc.); E. Richardson Co. and W. A. Avery; Chesbrough Lumber Co.; Van's Harbor Land & Lumber Co.; United Logging Co.; estate of Thomas Nestor; The Albany Pool; and Tindle & Jackson.

The officers of the Wisconsin Land & Lumber Co. and of the Northwestern Cooperage & Lumber Co. are intimately associated in several important companies in the Pacific-Northwest, and one company in Mississippi, in all of which there are indications of a common control. If the Upper Peninsular holdings of these two companies had been combined into one, it would have taken a place on the map in the first group of platted holders with well over 100,000 acres. The Northwestern Cooperage & Lumber Co. also appears to have some sort of contract interest, together with four other companies, in the timber cut by the United Logging Co. Interrelations between certain members of this group and of the first group have already been stated on page 194.

The South Shore Land Co. (Ltd.) is a subsidiary of the Duluth, South Shore & Atlantic Railway, which, in turn, is controlled by the Canadian Pacific Railway Co. The St. Mary's Mineral Land Co. controls the King Philip Copper Co., whose holding of 1,040 acres is credited to it; it also has a half interest in the Champion Copper Co., which owns 1,240 acres, none of which has been counted to the St. Mary's concern.

The holders of this group, with the exception of St. Mary's Mineral Land Co., G. F. Sanborn Co., the South Shore Land Co., the Tamarack companies, and the Albany Pool, are operating concerns engaged in the manufacture of lumber. A considerable fraction of the acreage held by these operating companies, as already noted, is in conflict with the lands reported by the Cleveland Cliffs (p. 192) and by some of the companies of the first group of 12 (p. 195). This conflicting acreage has regularly been credited and platted to the operating companies.

Section 6. Holdings of unplatted holders of over 60 million feet each in Upper Peninsula.

There are 58 holders of over 60 million feet of timber each in the Upper Peninsula whose lands are not platted on the map because they do not own as much as 40,000 acres in this region. They hold altogether (including timber rights [1]) 974,343 acres of land. This amounts to 9.1 per cent of the entire area of the Upper Peninsula and to 16.2 per cent of the aggregate acreage of all Upper Peninsula holdings of over 60 million feet each. These unplatted holders are divided into two groups, 27 holders of between 15,000 and 40,000 acres each, and 31 holders of less than 15,000 acres but over 60 million feet of timber each. The average stand on several of the holdings of the group of 27 is greater than that on some of the larger acreages owned by platted holders, and in some cases their total timber is greater.

The 31 holders just mentioned aggregate 349,069 acres in this region, which would make the average size of holding in this lowest group not far from 11,300 acres. These 31 own only 3.3 per cent of the total area of the Upper Peninsula, as against 47.1 per cent owned by the 32 platted holders. Yet with their average holding of 11,300 acres, or about 18 square miles, even the 31 can scarcely be called small holders.

Section 7. Conditions leading to concentration of land ownership in Upper Peninsula.

The assembling of large tracts of land in single ownerships in the Upper Peninsula was greatly facilitated by several Federal grants in aid of railroad, wagon-road, and canal construction, and also by the direct sale of lands by the Government at $1.25 per acre in unlimited amounts. Besides, large areas of land which the Federal Government granted to the State of Michigan were disposed of by the State at low prices, or were given by the State as aid to railroads, and eventually became part of the great land holdings now concentrated in a few hands. It was mainly because the granted lands contained timber and valuable ore deposits that they have tended to be transferred in relatively large bodies. Had they been chiefly valuable for agriculture, they would no doubt have been far more widely distributed in ownership by now. Or had these same lands been taken up by individuals in 160-acre tracts, it is certain that, though the economic utilization of the resources would have required a considerable degree of concentration, there would have been by no means so great a concentration as has actually come about. For there is much more difficulty in assembling many small holdings than in dealing directly with the owners of a land grant.

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[1] 62,363 acres. See Table 8, p. 190.

Federal grants for railroads, wagon roads, and canals.—The amounts of land in the Upper Peninsula patented by the Government on account of the various Federal railroad, wagon-road, and canal grants just referred to, together with the statute references, are summarized in the following statement:

TABLE 11.—TOTAL ACREAGE OF FEDERAL LAND GRANTS IN UPPER PENINSULA OF MICHIGAN FOR RAILROADS, WAGON ROADS, AND CANALS.

	Granting act.			Acres patented under grants.	Miles of road or canal constructed.
	Date.	Volume of U. S. Statutes.	Page.		
(1) Grants for railroad companies:					
Marquette, Houghton & Ontonagon—					
Marquette, Houghton & Ontonagon	June 3,1856 Mar. 3,1865	11 13	21 520	305,930	45.26
Bay de Noquet & Marquette	June 3,1856	11	21	128,301	20.00
Ontonagon & Brule River	June 3,1856	11	21	34,227	20.00
Chicago & North Western	June 3,1856 Mar. 3,1865	11 13	21 520	518,065	125.20
Total for railroads				986,523	210.46
(2) Grant for wagon road:					
Fort Wilkins, Copper Harbor, to State line	Mar. 3,1863	12	797	221,013	125.00
(3) Grants for canals:					
St. Mary's River	Aug. 26,1852	10	35	[1] 262,710	1.02
Portage Lake and Lake Superior	Mar. 3,1865 July 3,1866	13 14	519 81	400,061	2.25
Lac La Belle	July 3,1866	14	80	100,012	.88
Total for canals				762,803	4.15
Grand total				1,970,339	339.61

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[1] The total area of the St. Mary's Canal grant was 750,143 acres, of which approximately 262,710 acres were selected in the Upper Peninsula and the balance in the Lower Peninsula. The canal as built was 5,400 feet (1.02 miles) in length, 100 feet in width, and 12 feet in depth.

The 1,970,339 acres granted by Congress for the construction of railroads, wagon roads, and canals in the Upper Peninsula make between one-fifth and one-sixth of the entire area of the peninsula.

The Marquette, Houghton & Ontonagon, successor to the Marquette & Ontonagon and the Bay de Noquet grants, received patents for about 462,000 acres, sold some 60,000 acres reserving mineral rights, and then in 1881 sold the remaining 402,000 acres and the reserved mineral rights in the 60,000 acres to the Michigan Land & Iron Co. (Ltd.). The price was $2,500,000.[1] This concern was reorganized in 1901 as a limited partnership association with practically the same ownership, and the name was changed to The Michigan Iron & Land Co. (Ltd.). To-day, of the land bought 30 years ago, this company still holds over 320,000 acres in fee. The Bureau is not informed as to the extent of its additional acreage of mineral rights.

The grant for the road from Ontonagon southward 75 miles to the Wisconsin State line was originally transferred by the State to the Ontonagon & State Line Railroad Co. The grant for this route is an interesting example of the failure of a land grant to attain the object proposed. The original act of 1856 provided that the road should be built within 10 years. In 1880, over 24 years after the grant, no work of any kind had yet been done. In June, 1881, the legislature of Michigan declared the grant forfeited and conferred it on the newly organized Ontonagon & Brule River Railroad Co., but attached certain conditions to the grant. Only the first 20 miles were ever built. This 20-mile stretch was accepted by the governor as "completed" in February, 1882. The Public Lands committee of the House[2] in 1886 investigated the matter and reported their conclusion that the construction of the road was only "colorable." Affidavits and photographs were put before the committee showing that the road was not properly built. According to the affidavits of men who did the work, the ties and the track for much of the last 4 of the 20 miles were laid on top of a foot of snow, and the governor's trip of inspection was over track so laid. The committee recommended that Congress declare the entire grant forfeited. This was not done, though the next Congress passed a bill forfeiting all lands opposite the 55 miles not built. The amount of granted lands finally available for the 20 miles completed was only about 35,000 acres.

CANAL LAND GRANTS—*St. Mary's Ship Canal.*—The first of the Federal land grants to aid the construction of canals in Michigan was that for the St. Mary's Ship Canal, at Sault Ste. Marie, to make a passage between Lake Superior and Lake Huron available for ships. In 1870 the United States Government undertook the enlargement of the canal. This work was completed in 1881, when the State of Michigan relinquished control to the Government. To meet the increasing demands of commerce an additional and larger lock was constructed, and completed in 1896. The Government has a second canal here known as the Sault Ste. Marie Canal, completed in 1895, and is constructing a third.

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[1] H. Rept. No. 1928, Views of minority, p. 4, 49th Cong., 1st sess., vol. 7, 1885-6. The *Statement Showing Land Grants* gives the area patented to these railroads as follows: Marquette & Ontonagon, 306,930 acres; Bay de Noquet & Marquette, 128,301 acres. The total is nearly 30,000 acres less than the 462,000 acres mentioned here by the House committee.

[2] H. Rept. No. 721, 49th Cong., 1st sess., 1886.

The original canal company by the act of August 26, 1852 (10 Stat., 35), received a grant of 750,000 acres. The land was to be selected anywhere in the State of Michigan, without limitation as to location or character, except that the lands selected were to be such as were subject to private entry. The company took approximately 490,000 acres of its lands in the Lower Peninsula and 260,000 acres in the Upper Peninsula.

The following tabular statement shows the high proportion of the St. Mary's Ship Canal lands now held by a few timber owners reported to the Bureau:

TABLE 12.—PRESENT OWNERSHIP OF LANDS IN UPPER PENINSULA OF MICHIGAN ORIGINALLY GRANTED FOR CONSTRUCTION OF ST. MARY'S SHIP CANAL.

Present owners.	Approximate amount of the original grant now owned.	Per cent of total grant.
Platted holders:	*Acres.*	
St. Mary's Mineral Land Co.	94,610	36.0
Cleveland Cliffs Iron Co. interests	47,800	18.2
Bay de Noquet Co.	13,480	5.1
Calumet & Hecla Mining Co.	7,680	2.9
Van's Harbor Land & Lumber Co.	4,040	1.6
Tamarack Mining Co.	3,680	1.4
J. M. Longyear et al.	3,400	1.3
Other platted holders	1,240	.4
Total, platted holders	175,930	66.9
Unplatted holders:		
Copper Range Consolidated Co.	4,210	1.6
Other unplatted holders reported to Bureau	9,640	3.7
Total, unplatted holders	13,850	5.3
Total accounted for	189,780	72.2
Unaccounted for	72,930	27.8
Grand total	262,710	100.0

The seven platted holders named in the table have 174,690 acres out of a total of 262,710 acres, or two-thirds of it. Certain other holders bring the total of this grant now in the hands of large timber owners to nearly 190,000 acres, or more than 72 per cent of the entire grant in the Upper Peninsula.

Portage Lake and Lake Superior Canal.—The grant for the Portage Lake and Lake Superior Canal amounted to 400,000 acres. The canal was 2¼ miles in length, and it connected Lake Superior with the waters flowing into the northwestern arm of Portage Lake. Its location is in 56 N., 34 W. (See inset on map.) At first 200,000 acres were granted, to be selected in odd-numbered sections "nearest the location of the canal." This was by act of March 3, 1865 (13 Stat., 519). By act of July 3, 1866 (14 Stat., 81), 200,000 acres more were granted, 150,000 acres to be selected from odd-numbered and 50,000 from even-numbered sections in the Upper Peninsula. Both acts excluded "lands designated as mineral by the United States before the passage of this act."

Of the 400,000 acres granted, three concerns now own 373,660 acres, or 93.4 per cent. The table is as follows:

TABLE 13.—PRESENT OWNERSHIP OF LANDS IN UPPER PENINSULA OF MICHIGAN ORIGINALLY GRANTED FOR CONSTRUCTION OF PORTAGE LAKE AND LAKE SUPERIOR SHIP CANAL.

Present owners.	Approximate amount of the original grant now owned.	Per cent of total grant.
Platted holders:	*Acres.*	
The Keweenaw Association (Ltd.)	306,220	76.5
J. M. Longyear et al	57,040	14.3
Calumet & Hecla Mining Co	10,400	2.6
Oliver Iron Mining Co	4,580	1.1
Tamarack Mining Co	1,200	.3
Other holders	1,160	.3
Total, platted holders	380,600	95.1
Unplatted holders	1,160	.3
Total accounted for	381,760	95.4
Unaccounted for	18,321	4.6
Grand total	400,081	100.0

Regarding this canal grant, charges were made before Congress in 1885 to the effect that the canal had not been properly constructed, that the company had not selected its lands from those "nearest to canal" as required by the grant, and that it had thereby illegally obtained supposed copper lands of great value. The House Committee on Public Lands investigated these charges. The majority reported its opinion [1] that the canal had "never been completed in the manner contemplated by the acts of Congress," and was "so defective as to be practically a fraud upon the intention of Congress"; that "certainly over 150,000 and probably over 280,000 acres, and of immense value, were illegally selected"; that official Government and State maps published prior to the date of the grant show that "200,000 acres selected by the canal company [100,000 acres illegally selected] almost exactly cover this supposed copper-bearing country, while the territory which they ought to have selected is shown by the same maps to be 'granite' or other rock formations of little value." The majority did not recommend the forfeiture of the entire grant because the granting act left the acceptance of the work with the State and the State authorities had certified its satisfactory completion and acceptance, thus leaving the United States without remedy. It did recommend, however, the institution of suits to recover the illegally selected land. The minority reported that the canal had been properly constructed; that in any event the grant was not forfeitable; and that it would be inequitable and useless to institute the suits recommended by the majority.

The Commissioner of the General Land Office, reporting on the matter,[2] found that over 93,000 acres, of the first 200,000 granted, had not been selected "nearest the location of the canal." He recommended, however, that no suit be brought, since the intervening lands nearer the canal had meantime all been taken by private parties and, if the Government should regain the illegally selected lands by suit, the regained lands themselves would thereupon become "the nearest" public lands and the canal company, he feared, could reselect them as such. As to mineral lands, he found that 68,000 acres of the lands selected by the canal company had been previously designated as mineral in proclamations by the President of the United States offering them for sale at public auction pursuant to law, though they had not been designated as mineral in the geological survey made under the authority of the act of Congress of March 1, 1847 (9 Stat., 146), an act providing for a classification of the lands of the Lake Superior region as to mineral character. He urged a suit to recover the 68,000 acres. Apparently this suit was not brought till 1896, when it was instituted in the United States district court for the western district of Michigan just before the statute of limitations would have barred action. The case was decided adversely to the United States on the ground that the survey made under the authority of act of 1847, which did not classify them as mineral, was the only "designation by the United States" within the meaning of the grant, and that the subsequent proclamations by the President were merely executive and could not change the nonmineral classification impressed on the lands by the survey authorized by Congress. The opinion, filed June 19, 1900, was not reported. No appeal was taken.

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[1] H. Rept. No. 2691, 48th Cong., 2d sess., 1885.

[2] Printed in Annual Report of Secretary of Interior for 1886, H. Ex. Doc. No. 1, pt. 5, 49th Cong., 2d sess., pp. 318-325.

Lac La Belle Canal.—The third canal grant in the Upper Peninsula was that for the Lac La Belle Canal, less than a mile long, connecting the waters of Lac La Belle, on the eastern point of the Keweenaw peninsula, with Lake Superior. This is between 57 and 58 N., 29 W. (see inset on map). The amount granted was 100,000 acres, to be selected in odd-numbered sections "nearest the location of the canal." The grantee of the State was the Lac La Belle Harbor Improvement Co. Three timber owners now hold 97.3 per cent of the granted lands, as follows:

TABLE 14.—PRESENT OWNERSHIP OF LANDS IN UPPER PENINSULA OF MICHIGAN ORIGINALLY GRANTED FOR CONSTRUCTION OF LAC LA BELLE SHIP CANAL.

Present owners.	Approximate amount of original grant now owned.	Per cent of total grant.
	Acres.	
Platted holders:		
Lake Superior Iron & Chemical Co	77,560	77.6
Tindle & Jackson	11,320	11.3
Chicago Lumbering Co. of Michigan	8,400	8.4
Other platted holders	680	.7
Total, platted holders	97,960	98.0
Unaccounted for	2,052	2.0
Grand total	100,012	100.0

Summary.—Bringing together in a single tabular statement the present ownership of all three of the canal grants, one finds that out of the 762,803 acres covered by the canal grants in the Upper Peninsula of Michigan, 669,500 acres, or 88 per cent, have been accounted for as now in the hands of timber owners reported to the Bureau, over 300,000 acres being owned by a single holder, the Keweenaw Association. The summary statement is as follows:

TABLE 15.—PRESENT OWNERSHIP OF LANDS IN UPPER PENINSULA OF MICHIGAN ORIGINALLY GRANTED FOR CONSTRUCTION OF SHIP CANALS.

[All figures, except the grand totals, are approximate, being based on a count of plats not showing exact survey acreage.]

Present owners.	St. Mary's grant.	Portage Lake and Lake Superior grant.	Lac La Belle grant.	Total.
	Acres.	*Acres.*	*Acres.*	*Acres.*
Platted holders:				
The Keweenaw Association (Ltd.)	40	306,220	....	306,260
St. Mary's Mineral Land Co.	94,610	....	....	94,610
Lake Superior Iron & Chemical Co.	....	....	77,500	77,500
J. M. Longyear et al.	3,400	57,040	....	60,440
Cleveland Cliffs Iron Co.	47,800	....	680	48,480
Calumet & Hecla Mining Co.	7,680	10,400	....	18,080
Bay de Noquet Co.	13,480	....	....	13,480
Tindle & Jackson	....	....	11,320	11,320
Chicago Lumbering Co. of Michigan	....	80	8,400	8,480
Tamarack Mining Co.	3,680	1,200	....	4,880
Oliver Iron Mining Co.	....	4,580	....	4,580
Van's Harbor Land & Lumber Co.	4,040	....	....	4,040
Other holders	1,200	1,080	....	2,280
Total, platted holders	175,930	380,600	97,900	654,430
Unplatted holders:				
Ontonagon Lumber & Cedar Co.	5,920	....	....	5,920
Copper Range Consolidated Co.	4,210	240	....	4,450
Other holders reported to Bureau	3,720	920	....	4,640
Total, unplatted holders	13,850	1,160	....	15,010
Total accounted for	189,780	381,760	97,900	669,500
Unaccounted for	72,930	18,321	2,052	93,303
Grand total	262,710	400,081	100,012	762,803

FORT WILKINS, COPPER HARBOR, AND STATE LINE WAGON-ROAD GRANT.—A land grant was made for the construction of a wagon road from Copper Harbor, on the Keweenaw peninsula, to the Michigan-Wisconsin State line, where it was to meet a corresponding road running from Green Bay, Wis. The length of the road in Michigan was 125 miles, and for this distance the grant allowed three sections per mile, the indemnity limits being 15 miles on each side of the road. Mineral lands were not excepted. The road was so located as to follow the backbone of the copper range, known for its immense mineral wealth, and to run thence southward to the State line. In this case the road was fortunate enough to receive all of the possible maximum of its grant, 221,000 acres.

The Bureau has ascertained the present ownership of the lands in this grant. In the southern part of it, and wholly included in it, are the holdings now owned by the estate of J. C. Ayer, 174,000 acres. In the northern part of the grant, where it traverses the copper range region, the wagon-road lands are practically all owned by three great copper owning and mining concerns—the Keweenaw Association, the Calumet & Hecla interests, and the Tamarack interests. A tabular statement of the present ownership follows:

TABLE 16.—PRESENT OWNERSHIP OF LANDS IN UPPER PENINSULA OF MICHIGAN ORIGINALLY GRANTED FOR CONSTRUCTION OF FORT WILKINS, COPPER HARBOR, AND GREEN BAY WAGON ROAD.

Present owners.	Approximate amount of original grant now owned.	Per cent of total grant.
Platted holders:	*Acres.*	
Estate of J. C. Ayer	174,000	78.7
The Keweenaw Association (Ltd.)	21,310	9.7
Calumet & Hecla Mining Co. interests	20,410	9.2
Tamarack Mining Co. interests	2,360	1.1
Other holders	880	.4
Total accounted for	218,960	99.1
Unaccounted for	2,053	.9
Grand total	221,013	100.0

FEDERAL SWAMP-LAND GRANT OF 1850.—The Federal swamp-land grant of September 28, 1850, is discussed here only because a very considerable part of the millions of acres patented to the various States under this grant was timberland, much being now held by large timber owners, and because there has been a marked failure on the part of most of the States, in disposing of the land, to observe or enforce the condition of drainage and reclamation attached to the original grant.

The grant gave to the various public-land States all swamp and overflowed lands within their borders. The condition referred to provided that—

> The proceeds of said lands, whether from sale or by direct appropriation in kind, shall be applied exclusively, as far as necessary, to the reclaiming said lands, by means of levees and drains. (Sec. 2480, R. S.)

The theory and purpose of the grant was that the lands should be drained and reclaimed by the States, or the vendees of the States, and that thus the agricultural area would be increased and sanitary conditions and the public health would be improved. Under this grant there had been patented to various States up to June 30, 1910, over 63,000,000 acres. There have been many charges of fraud regarding the selection of nonswamp lands as well as swamp lands under this act, and regarding the methods followed by the States in disposing of the lands to private parties. (See "The Public Domain," p. 220.[1]) Moreover, the real swamp lands, granted on condition of drainage, are, in general, still undrained.

In view of this situation and its bearing on the title to parts of many large timber holdings, it is pertinent to give here briefly certain facts as to the methods adopted by the State of Michigan in disposing of its swamp lands, so far as they might affect the validity of the present title to them; and to note the decisions of the Supreme Court interpreting the force of the condition. The swamp-land situation in Florida, which State received over 20,000,000 acres of swamp lands, is taken up on pages 223 to 236 of the following chapter.

Michigan's disposal of its swamp lands.—To Michigan, up to June 30, 1910, patents had been given for 5,655,570 acres of swamp lands. The State's methods of disposing of these lands[2] has largely furthered the concentration of their ownership without securing any appreciable measure of drainage or reclamation. They were offered for sale at public auction at not less than $1.25 per acre, the unsold lands to be thereafter subject to private entry at $1.25 per acre. Those chiefly valuable for timber could be bought in unlimited quantities for cash at that price. The net receipts from the disposition of the swamp lands were constituted a *primary school fund*, but the State recognized the Federal requirement for drainage by imposing on the purchaser the obligation to drain, as appears from the following provision:

> all such sales shall be made subject to drainage and reclamation by the purchaser, in accordance with the act of Congress granting such land to the state.[3]

In 1859 the legislature announced the policy of granting the swamp lands to aid the construction of State highways; and set aside not more than 400,000 acres, to be sold or granted for such highways, between points designated by the legislature, at the rate of not more than 640 acres per mile in the Lower Peninsula and 1,280 acres per mile in the Upper Peninsula.[4] Part of the land (200,000 acres) was appropriated for draining and reclaiming swamp lands by means of levees and ditches.[5]

In several instances Michigan granted swamp lands to aid the construction of railroads, the grants ranging from 3,200 acres to 10,240 acres per mile. Such grants for railroads in the Upper Peninsula were made in 1861, 1873, and 1875. The grant of 1861 was for a road to be built from Marquette to the mouth of the Menominee River.[1]

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[1] The Public Domain (H. R. Misc. Doc. No. 45, pt. 4, 47th Cong., 2d sess.), Washington, 1883.

[2] See Michigan Compiled Laws, 1897, vol. 1, pp. 535–548.

[3] Laws of Michigan, act of Feb. 4, 1858.

[4] See Michigan Compiled Laws, 1897, vol. 1, p. 530.

[5] Ibid.

As a condition precedent to this grant, the State required the company to—

> construct, on each side of their line of road bed, ditches from two to three and a half feet in depth, below grade, of such widths as to give a perfect drainage and not permit any standing water, and at all water-ways sufficient space shall be left for the unobstructed passage of water, and at all points of the lines of the roads aforesaid, when side ditches can be cut that will carry off the surface water, they shall be constructed by the company constructing said line of railroad.

It is obvious that this requirement was inadequate to secure the drainage of more than a small fraction of the land granted.

In some of Michigan's swamp-land grants, the granting act declared it was made "to secure the early construction of a railroad, * * * and for the purpose of drainage and reclamation." But there was either no provision enacted for this purpose[2] or merely a general provision giving the Board of Control of State Swamp Lands "full power and authority over said lands, the reservations necessary and the limitations and privileges requisite in the application of such lands to such purpose."[3]

Supreme Court decisions on the condition in the Federal swamp-land grant.—The United States Supreme Court's decisions construing the effect of the condition attached to the Federal swamp-land grant of 1850 have been given in cases arising from the method of disposal of swamp lands adopted by Iowa, California, and Louisiana, whose swamp-land legislation was different in various respects from that of Michigan.

Iowa having transferred its swamp lands to the counties and permitted the counties to "devote the lands or the proceeds thereof, either in whole or in part," to other purposes than drainage, the case of Emigrant Co. *v.* County of Wright arose, in which the county sought to have a contract for the sale of its lands set aside because fraudulently procured, and because it contemplated a diversion of the proceeds from the purpose of drainage and reclamation in violation of the terms of the original grant by Congress. The Supreme Court, in deciding that the contract was void (97 U. S., 339), emphasized the evidence of fraud and stated that in order to reach the decision it was not necessary to hold that the contract was void because contemplating a diversion of the grant; and that it was not decided to be void for that reason alone. Nevertheless, the court expressed the opinion that the purchaser of the lands must be held to know that they were "impressed with an important public trust," and gave as one reason for its decision the fact that the contract provided "for a diversion of the fund" to other purposes. This was in 1877. In 1879, in Emigrant Co. *v.* County of Adams (100 U. S., 61) a similar question came before the court. In this case it was decided that there was not sufficient proof that the contract was procured by fraud. The opinion added that by the act of 1850 the swamp lands—

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[1] Laws of Michigan, 1861, p. 417. Congress in 1865 (13 Stat., 520) changed the route for a Federal railroad grant previously made so that it should correspond to the route of the State grant of 1861. The Chicago & North Western Ry. built the road, about 125 miles in length, and received both grants, 3,840 acres per mile from the State, and 6,400 acres per mile from the Federal Government. The unsold portions of these grants still retained by the Chicago & North Western constitute it one of the holders of over 100,000 acres on the map.

[2] Laws of Michigan, 1875, p. 272.

[3] Ibid., p. 229.

> were granted to the several States * * * for a purpose expressed on the face of the act; and that purpose was "to enable the State to construct the necessary levees and drains to reclaim them." * * * Our first view was, that this trust was so explicit and controlling as to invalidate the scheme finally devised by the legislature of Iowa for the disposal of the land, and under which the contract in question was made. But on more mature reflection, after hearing additional argument, we are satisfied that such a result did not necessarily follow. * * *
>
> The argument against the validity of the scheme is, that it effects a diversion of the proceeds of the lands from the objects and purposes of the congressional grant. * * * The proviso of the second section of the act of Congress declared that the proceeds of the lands, whether from sale or direct appropriation in kind, should be applied exclusively, as far as necessary, to these purposes. This language implies that the State was to have the full power of disposition of the lands; and only gives direction as to the application of the proceeds, and of this application only "as far as necessary" to secure the object specified. It is very questionable whether the security for the application of the proceeds thus pointed out does not rest upon the good faith of the State, and whether the State may not exercise its discretion in that behalf without being liable to be called to account, and without affecting the titles to the lands disposed of. At all events, it would seem that Congress alone has the power to enforce the conditions of the grant, either by a revocation thereof, or other suitable action, in a clear case of violation of the conditions. And as the application of the proceeds to the named objects is only prescribed "as far as necessary," room is left for the exercise by the State of a large discretion as to the extent of the necessity. In the present case it is not shown by allegations in the bill, or otherwise (if such a showing would be admissible), that any necessity existed for devoting the proceeds of the lands in question to the purposes of drainage. No case is shown as the basis of any complaint, even on the part of the general government, much less on the part of the county of Adams, which voluntarily entered into the arrangement complained of. Our conclusion, therefore, is that this objection to the validity of the contract cannot prevail.

In 1882, in Mills County *v.* Railroad Companies (107 U. S., 557), referring to the earlier cases, the court said:

> Upon further consideration of the whole subject, we are convinced that the suggestion then made, that the application of the proceeds of these lands to the purposes of the grant rests upon the good faith of the State, and that the State may exercise its discretion as to the disposal of them, is the only correct view. It is a matter between two sovereign powers, and one which private parties can not bring into discussion. Swamp and overflowed lands are of little value to the Government of the United States, whose principal interest in them is to dispose of them for purposes of revenue; whereas the state governments, being concerned in their settlement and improvement, in the opening up of roads and other public works through them, in the promotion of the public health by systems of drainage and embankment, are far more deeply interested in having the disposal and management of them. For these reasons, it was a wise measure on the part of Congress to cede these lands to the States in which they lay, subject to the disposal of their respective legislatures; and although it is specially provided that the proceeds of such lands shall be applied, "as far as necessary," to their reclamation by means of levees and drains, this is a duty which was imposed upon and assumed by the States alone, when they accepted the grant; and, whether faithfully performed or not, is a question between the United States and the States, and is neither a trust following the lands nor a duty which private parties can enforce as against the State.

In 1883, in Hagar *v.* Reclamation District (111 U. S., 701, 713), a case arising in California, this interpretation of the act of 1850 was confirmed, the court saying that the appropriation of the proceeds of the sale of the lands rested solely in the good faith of the State; and that its discretion in disposing of them was not controlled by the condition mentioned in the act, as neither a contract nor a trust following the lands was thereby created.

In 1887, in United States *v.* Louisiana (127 U. S., 182, 191), a case involving a claim by Louisiana for about $43,000, arising in part under the swamp-land act of 1850 and the supplementary act of March 2, 1855, the United States claimed a set-off.

The Court of Claims had ruled that the funds in the Treasury of the United States due to Louisiana as swamp-land indemnity under the act of 1855 were trust moneys to be transferred to the State for the special purpose of drainage, that Congress had not disavowed or annulled the trust, and that therefore the United States, when it set off against the amount due to the State in this fund a counterclaim of the United States for moneys due it from the State, had diverted the trust fund without authority of law. The Supreme Court, however, reversed this ruling, and declared that the swamp-land indemnity fund was not a property trust to be applied only for purposes of drainage, but could be used by the State for general purposes; and that therefore the United States could properly claim the set-off.

The opinion then went on to say:

> Under the act of 1850, the swamp lands are to be conveyed to the State as an absolute gift, with a direction that their proceeds shall be applied exclusively, as far as necessary, to the purpose of reclaiming the lands. The judgment of the State as to the necessity is paramount, and any application of the proceeds by the State to any other object is to be taken as the declaration of its judgment that the application of the proceeds to the reclamation of the lands is not necessary. By the 2d section of the act of 1855, it is provided that the purchase money received by the United States for the swamp lands sold by them shall be paid over to the State. There is nothing in these provisions of the character of a property trust, and nothing to prevent the application by the State of the swamp-land fund to general purposes. If the power exists anywhere to enforce any provisions attached to the grant, it resides in Congress and not in the court.

The Bureau does not assume to suggest that Congress follow the intimation here given by the court; but the legal rights of Congress in the matter and the public policy involved are questions which should receive careful consideration. The distinction should be kept clear between instances in which the States or counties sold the swamp land without attaching any condition (as in the cases above cited), and instances in which they sold it with the condition that the purchaser should drain it, or in which they granted it "in kind" in return for drainage work or for the construction of railways.

The whole situation takes on new interest in the light of recent proposals for the Federal Government itself undertaking the work and expense of draining great areas of these same swamp lands. (Newlands bill, S. 2739, 63d Cong., 2d sess., Jan. 31, 1914.) While the drainage of these areas would be of great indirect benefit to the public, the prime benefit would go to the private corporations and persons who own the lands.

From an economic point of view it seems fairly plain that the act of 1850, which had the object of increasing the agricultural area and improving sanitary conditions, was a premature attempt to accomplish these important ends. The States were not then far enough developed to undertake such a vast work of drainage for the mere sake of the public health, nor was the importance of such work sufficiently realized in the sanitary science of that day. Moreover, there was no immediate economic incentive to drain the lands for agriculture. An abundance of public lands and cheap private lands which did not need drainage was still available, and the pressure of population upon the agricultural resources of the country had not begun to be felt.

Swamp-land grant to Detroit, Mackinac & Marquette Railroad Co.— In 1873 the State of Michigan made a grant of swamp lands for the early construction of a railroad in the eastern part of the Upper Peninsula from the Straits of Mackinaw to Marquette, a distance of about 150 miles.[1] This grant expressed a purpose of drainage and reclamation and gave the State Board of Control power over the lands in the loose terms quoted on page 207 (middle). The Detroit, Mackinac & Marquette Railroad Co. built the road, completing it in 1881, and acquired the grant.

The following statement regarding these granted lands is taken from a financial manual:

> In 1881 the Detroit, Mackinac & Marquette R. R. received from the State of Michigan a land grant of 1,326,688 acres in the upper peninsula covering the counties of Chippewa, Mackinac, Marquette and Schoolcraft, Mich. These lands, under certain conditions, were pledged as security for * * * land-grant bonds * * * and when the Detroit, Mackinac & Marquette R. R. Co. was sold under foreclosure on Oct. 20, 1886, and acquired and reorganized by the syndicate which constructed the Duluth, South Shore & Atlantic Ry., the holders of the land-grant bonds retained their lien upon the lands. On Jan. 1, 1911, there remained unsold 176,681 acres, besides mineral rights reserved on 98,719 acres sold in Marquette County, Mich.[2]

The fee land of this holding is credited in the Bureau's tables to the Detroit, Mackinac & Marquette; but the 98,719 acres of mineral rights are not credited to this holder in the tables or on the map. Part of the land on which mineral rights are owned may, perhaps, be included in some of the timber holdings platted and counted to other holders, but as the Bureau did not have the exact location of the mineral rights, it could not determine this point. The Upper Peninsula Land Co. (Ltd.), part of the Cleveland Cliffs Iron Co. interests, apparently acquired practically all of its great holding of over 700,000 acres from the Detroit, Mackinac & Marquette Railroad; and the records of the General Land Office show that practically all the Upper Peninsula Land Co.'s holdings were originally part of the swamp-land grant. Moreover, the Upper Peninsula Land Co. has sold tracts, or the timber on tracts, amounting to something like 82,000 acres (at any rate, that amount of lands reported by it is in conflict with lands reported by other timber holders[3]), and practically all these tracts were originally part of the swamp-land grant.

Present ownership of swamp lands in certain counties of Upper Peninsula.—The following table shows the present ownership of all swamp lands granted to the State in Chippewa, Mackinac, Schoolcraft, and Marquette Counties, and in part of Luce County, in the Upper Peninsula. With the exception of Luce County, these are the counties in which, according to the quotation given above, the grant from the State to the Detroit, Mackinac & Marquette was located. Swamp lands were granted to the State in many other counties not included in this tabulation.

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[1] Laws of Michigan, 1873, p. 37. The amount of the grant and time for completion were extended by amendments in 1874, 1875, 1877, and 1879.

[2] Moody's Manual, 1911 p. 2925.

[3] These lands have been credited in the Bureau's tables to the other holders reporting them and not to the Upper Peninsula Land Co. This figure of 82,000 acres is included in the 136,493 acres of such conflicts referred to on p. 192 as deducted from the Cleveland Cliffs Iron Co. interests. It does not include the 43,000 acres sold by the Upper Peninsula Land Co. to the I. Stephenson interests.

TABLE 17.—TOTAL ACREAGE OF SWAMP LANDS GRANTED TO STATE OF MICHIGAN IN CHIPPEWA, MACKINAC, MARQUETTE, AND SCHOOLCRAFT COUNTIES AND IN PART OF LUCE COUNTY,[1] WITH PRESENT OWNERSHIP THEREOF.

[All figures are approximate, being based on a count of plats not showing exact survey acreage.]

Present owners.	Swamp lands owned in counties specified.
Platted holders:	
Cleveland Cliffs Iron Co. interests—	
Upper Peninsula Land Co. (Ltd.)	*Acres.* 676,160
Cleveland Cliffs Iron Co., including other subsidiaries	54,470
Total	730,630
First group (over 100,000 acres each in Upper Peninsula)—	
Detroit, Mackinac & Marquette R. R.	87,760
Worcester Lumber Co. (Ltd.)	26,520
I. Stephenson interests	23,830
Chicago & North Western Ry. Co	14,400
J. M. Longyear et al	3,360
Oliver Iron Mining Co	2,680
Lake Superior Iron & Chemical Co	1,920
The Michigan Iron & Land Co. (Ltd.)	1,050
3 other holders	1,040
Total	162,560
Second group (from 40,000 to 100,000 acres each in Upper Peninsula)—	
Escanaba Lumber Co	45,040
Tindle & Jackson	3,120
Van's Harbor Land & Lumber Co	3,000
Chesbrough Lumber Co	2,080
Chicago Lumbering Co. of Michigan	1,800
Wisconsin Land & Lumber Co	1,640
Platted holders—Continued.	
Second group (from 40,000 to 100,000 acres each in Upper Peninsula)—Continued.	*Acres.*
United Logging Co	1,120
5 other holders	1,120
Total	58,920
Total, platted holders	952,110
Unplatted holders:	
Of over 60 million feet each—	
Jerry Madden Shingle Co	21,440
William Mueller Co	13,310
F. P. Chesbrough	6,400
Central Paper Co	4,160
Morley & Mershon	4,080
D. N. McLeod Lumber Co	2,280
The Kimberly-Clark Iron Co	1,440
L. Jensen	1,280
Embury-Martin Lumber Co	1,200
M. D. Olds	1,040
5 other holders	2,540
Total	59,520
Of less than 60 million feet each—	
Hudson Lumber Co	9,790
J. H. Hunter	1,600
S. H. Embury	1,280
7 other holders	2,320
Total	14,990
Total, unplatted holders	74,510
Total accounted for	1,026,620
Unaccounted for	329,400
Grand total	1,356,020

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[1] The part of Luce County covered in the table consists of townships 45 and 46 north in each of ranges 8, 9, 10, and 11 west, and township 45 north, range 12 west.

Of the 1,356,000 acres granted to the State as swamp land in these four counties and the southern part of Luce County, approximately 1,025,000 acres, or 75 per cent, are now held by timber owners reported to the Bureau. About 935,000 acres, or nearly 70 per cent, are now in the hands of only six holders, and over 730,000 acres, or about 54 per cent, in the hands of only one holder, the Cleveland Cliffs Iron Co. interests. The Detroit, Mackinac & Marquette Railroad has in this region only 87,700 acres of fee swamp lands. In other counties of the Upper Peninsula it has about 90,000 acres more granted it by the State out of the Federal grant.

The following statement segregates, by holders, the 82,000 acres of conflicting swamp land referred to above as reported both by the Upper Peninsula Land Co. and by other holders:

TABLE 18.—CONFLICTING SWAMP LANDS INCLUDED IN TABLE 17.

Holder to whom credited.	Acres.	Holder to whom credited.	Acres.
Escanaba Lumber Co.	29,900	Van's Harbor Land & Lumber Co.	2,120
Jerry Madden Shingle Co.	21,050	8 other holders	2,820
Detroit, Mackinac & Marquette R. R.	9,920		
I. Stephenson interests	8,980	Total	82,150
Hudson Lumber Co.	7,360		

FORM IN WHICH LANDS NOW HELD BY CLEVELAND CLIFFS IRON CO. WERE ORIGINALLY ALIENATED BY UNITED STATES.—Table 17 accounts for nearly one-half the entire Cleveland Cliffs acreage as originally swamp lands. A further inquiry was made to determine by what form of grant or entry the remaining lands of the Cleveland Cliffs were originally alienated by the Government. On comparing the plats of the company's lands with the records of the General Land Office, it was found that in addition to its swamp lands in the foregoing table, the Cleveland Cliffs has about 160,000 acres more of such lands in other parts of the Upper Peninsula, making its total swamp lands about 890,000 acres. Aside from this immense acreage of swamp-grant lands the company's holding consists chiefly of lands originally alienated (1) under agricultural college scrip and military-bounty land warrants at $1.25 per acre, and (2) by cash sale at private entry at $1.25 per acre.[1] Less important amounts were originally alienated under canal grants, railroad grants, and grants to the State for educational purposes. The following table covers the entire holdings of the Cleveland Cliffs, including the 730,600 acres of its swamp land in Table 17. It shows separately the Upper Peninsula Land Co. (Ltd.), because that is the most important subsidiary of the

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[1] Both these classes of land were $2.50 per acre within the railroad grant primary limits after date of grant.

Cleveland Cliffs interests in point of acreage. The figures are approximate, being based on a count of "forties."

TABLE 19.—FORM OF ORIGINAL GRANT OR ENTRY OF LANDS NOW OWNED BY CLEVELAND CLIFFS IRON CO. INTERESTS.

[All figures are approximate, being based on a count of plats not showing exact survey acreage.]

Forms of grant or entry.	Upper Peninsula Land Co. (Ltd.).	Cleveland Cliffs Iron Co., including other subsidiaries.	Total Cleveland Cliffs Iron Co. interests.
	Acres.	*Acres.*	*Acres.*
Swamp land	[1] 676,160	213,900	[1] 890,060
Agricultural-college scrip and military-bounty land warrants	160	250,290	250,450
Cash sale at $1.25 per acre [2]	530	201,560	202,090
Canal grant		48,480	48,480
State educational grant		36,530	36,530
Railroad grant	240	25,420	25,660
Homestead entry	1,880	6,500	8,380
Timber and stone entry	160	4,200	4,360
Miscellaneous (forest-lieu selection, Indian allotment, preemption entry, lighthouse selection, etc.)	2,000	5,260	7,260
Total	681,130	792,140	[3] 1,473,270

[1] Includes part or all of the 43,000 acres sold to the I. Stephenson Lumber Co. (See p. 193.)

[2] $2.50 per acre within railroad grant primary limits after date of grant.

[3] Includes the 43,000 acres mentioned in note 1, but excludes about 85,000 acres of Cleveland Cliffs land for which the Bureau has no plats. This explains the difference between this total and the total shown for the company in Table 8, p. 190. The 136,490 acres of conflicting lands referred to on p. 193 are omitted here, as in other tables. Of these 136,490 acres, about 90,000 acres were swamp-grant lands and 21,000 were railroad-grant lands.

All the items in the above table, except the last three, represent methods of obtaining land without necessity for individual entrymen, and without the trouble of assembling many individual tracts. The swamp lands were evidently handled by the State in large blocks. Agricultural-college scrip could be bought in large quantities from the State, and the military-bounty land warrants of individual soldiers and officers were commonly assembled by brokers and bought in large blocks by land speculators. Cash purchases at $1.25 per acre were unlimited in amount. Canal lands, State lands, and railroad lands could be had in any desired quantity. From all these sources land could be purchased at wholesale, so to speak; and of the 1,473,000 acres of Cleveland Cliffs land shown in the table, over 98 per cent came through such channels.

This company's holding, therefore, illustrates the fact that the great governmental grants, the scrip rights, and the selling of land at private entry have tended directly to the formation of large holdings.

Section 8. Concentration of timber ownership in Upper Peninsula.

The following table states the amount of timber owned by the holders of over 60 million feet each in the Upper Peninsula, with division between groups of platted and groups of unplatted holders. The holders and their division into groups is the same as in the acreage tables (pp. 190 and 191); that is, the grouping in this timber table is based on the number of acres owned in the Upper Peninsula, not on the amount of timber. The timber of the Cleveland Cliffs Iron Co. interests is not stated separately, but is blocked with that of the first group of 12 platted holders. The acreage shown is total acreage, including nontimbered as well as timbered land:

TABLE 20.—TOTAL ACREAGE AND MERCHANTABLE TIMBER OWNED IN UPPER PENINSULA OF MICHIGAN BY HOLDERS OF OVER 60 MILLION FEET EACH.

[Timber in billions of board feet. Thus, 11.4=11,400,000,000 board feet.]

Holders of over 60 million feet (grouped according to total acreage owned in Upper Peninsula).	Number of holders.	Land owned.[1]	Timber owned.	
			Billion feet.	Per cent, based on total timber in holdings of over 60 million feet each.
		Acres.		
Platted holders:				
Cleveland Cliffs Iron Co	1	1,515,392	11.4	47.3
Group of 12 holders of over 100,000 acres each	12	2,413,794		
Group of 19 holders of from 40,000 to 100,000 acres each	19	1,095,497	4.9	20.3
Total, platted holders	32	5,024,683	16.3	67.6
Unplatted holders:				
Group of 27 holders of from 15,000 to 40,000 acres each	27	625,274	4.8	19.9
Group of 31 holders of less than 15,000 acres and over 60 million feet each	31	349,069	3.0	12.5
Total, unplatted holders	58	974,343	7.8	32.4
Grand total	90	5,999,026	24.1	100.0

[1] Including 244,977 acres reported as timber rights. For distribution by groups, see Table 8, p. 190.

From this table is seen the absolute amount of timber owned by all holders of over 60 million feet each in the Upper Peninsula (24.1 billion feet), and the amount and percentage of this total owned by each group. The Cleveland Cliffs and the first group of 12 platted holders have 11.4 billion feet of timber together. This is nearly half the total in the table. Though the amount of timber owned by the Cleveland Cliffs Iron Co. interests is not stated separately, it is one of the largest holders in "group 4," in the classification used in Part I (p. 94); that is, the group of those owning between 3.5 and 5 billion feet. The second group of 19 platted holders has, in the aggregate, 4.9 billion feet of timber.

The 32 platted holders taken together own 16.3 billion feet of timber in the Upper Peninsula. This is more than two-thirds of all the timber in this area owned by holders of over 60 million feet each.

A comparison of the percentages in the above table of timber owned, with those in the table of acreage owned (p. 191), shows that though the 32 platted holders have 83.8 per cent of the total acreage held in the Upper Peninsula by owners of over 60 million feet, they have only 67.6 per cent of timber held by such owners. The 58 unplatted holders, though they own only 16.2 per cent of the total acreage, nevertheless have 32.4 per cent of the timber; that is, their proportion of the timber is twice as great as their proportion of the land. This is due to the fact that they own less nontimbered land than the platted holders, and that their timbered land has, in the case of many, a heavier average stand per acre.

Section 9. Total holdings owned in Michigan, in Lake States, and in other regions by the 32 platted holders of Upper Peninsula map.

The Cleveland Cliffs Iron Co. has no holdings outside the Upper Peninsula. In the first group of 12 platted holders there are 4 who own timber elsewh[illegible] States. These 4 have 948,531 acres of land in Wisconsin and Minnesota, of which 524,567 acres are reported as timbered. The timber amounts to 1.8 billion feet. Adding these amounts of land to the totals for the group in the Upper Peninsula, the total acreage of all 12 holders in the Lake States is 3,362,325 acres, of which 2,633,516 acres are classed as bearing merchantable timber. As has been seen, the timber owned in the Upper Peninsula by the Cleveland Cliffs and the first group of 12 together amounts to 11.4 billion feet. Hence, their total in the Lake States is 13.2 billion feet. None of the 12 holders have any holdings in lower Michigan.

A small amount of timber is owned in lower Michigan by members of the second group of 19 holders. In Wisconsin and Minnesota 3 members of the group own 182,659 acres, of which 143,174 acres are timbered. The total acreage in the Lake States owned by these 19 holders is 1,310,516 acres.

Outside the Lake States, in the Southern Pine Region and the Pacific-Northwest, only 5 of the 32 platted holders own timberland. These 5 own 612,508 acres in the South and the Pacific-Northwest, with 22.1 billion feet of timber.

CHAPTER IV.

LARGE LAND HOLDINGS IN FLORIDA.

Section 1. Introductory.

The figures in Table 1 of Chapter II for land owned in fee by timber holders in Florida, showed that owners of over 60 million feet of timber had in that State no less than 15,523,000 acres in fee (p. 168). These figures, as those for the other States in that table, were for the period of the Bureau's field investigation of timber. In the case of Florida this was made from 1907 to the summer of 1908.

In 1912, for the purpose of completing its office records of the location of the land of timber holders in Florida, the Bureau sent out letters to a number of concerns that had furnished estimates of their timber but had not furnished plats of their holdings during the period of field work. These letters requested the location of the lands and timber rights owned by these holders in 1912. The replies showed in several cases, as was expected, that there had been sales, or acquisitions, or sometimes an entire change in ownership. These were traced out by further correspondence. The inquiry was solely as to lands, and did not seek revised estimates on the amount of timber.

The opportunity was also taken to learn the amount and location of certain large holdings of nontimbered Everglades lands that the Bureau had not covered in its field work. These were holdings referred to, or located by full legal description, in the published Minutes of the Trustees of the Internal Improvement Fund of Florida.

In these ways the Bureau secured, by correspondence and from the Minutes, the location, correct in the main for 1912, of 30 large holdings, aggregating between 3 and 4 million acres, of which about 1 million were comprised in 8 or 9 holdings of nontimber owners in the Everglades or in other timberless parts of the State. There have been changes in the ownership of many other Florida holdings since the date of the field work, but if the Bureau had secured satisfactory plats of the holdings during the field work of 1907 or 1908, no attempt was made to bring them up to date, unless the correspondence with other concerns happened to point to changes in their holdings.

Section 2. New Florida data of 1912 added to those of 1907–8.

With this new material at hand office plats were made covering practically all the reported holdings in the State, about four-fifths of the acreage being as of 1907–8, and about one-fifth as of 1912. By this platting it was possible to eliminate substantially all the possible duplications, the conflicts being credited to one holder or the other according to the evidence available. On the basis of the material thus secured and verified a table has been prepared which, though partly of 1907–8 and partly of 1912, gives additional and more detailed information as to the land situation in Florida than was given in the tables of Chapter II. While, as stated, the holdings of a few nontimber owners are included, the table in the main is confined to timber owners and can not in any sense be taken as a complete statement of large land holdings in Florida. Indeed, timber rights are credited to the owner of the timber, not to the owner of the land. If, as sometimes happens, pine rights on a tract are owned by one holder, cypress rights by another, and the land by a third, the tract is credited to the owner of the pine rights.

Table 21 below shows the total acreage held in Florida by each of 8 groups of holders, the largest group comprising holdings of from 600,000 acres to 1,730,000 acres each, and the smallest comprising holdings of from 10,000 to 18,000 acres each. All told, there are included in this table 290 holders who each own 10,000 acres or over in the State. The figures show a total of 18,949,000 acres, of which 1,329,000 acres are timber rights. A footnote indicates the amount of timber rights included in the figures for each group. Table 22 shows the cumulative totals of the groups, which are shown separately in Table 21. All acreages are rounded to thousands.

TABLE 21.—TOTAL ACREAGE OF LAND (INCLUDING TIMBER RIGHTS)[1] HELD IN FLORIDA BY TIMBER OWNERS OF OVER 10,000 ACRES EACH, AND BY A FEW HOLDERS NOT REPORTED AS TIMBER OWNERS, BY GROUPS, 1907-8 AND 1912.

Groups.	Number of holders.	Acres.
Group 1 (600,000 to 1,730,000 acres each)	5	5,282,000
Group 2 (270,000 to 475,000 acres each)	6	2,100,000
Group 3 (130,000 to 240,000 acres each)	13	2,359,000
Group 4 (75,000 to 125,000 acres each)	28	2,689,000
Group 5 (50,000 to 75,000 acres each)	36	2,175,000
Group 6 (30,000 to 50,000 acres each)	47	1,726,000
Group 7 (18,000 to 30,000 acres each)	66	1,479,000
Group 8 (10,000 to 18,000 acres each)	89	1,139,000
Total	290	18,949,000

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[1] The figures in this table include 1,329,000 acres reported as timber rights, as follows: First group, 67,000 acres; second group, 147,000 acres; third group, 120,000 acres; fourth group, 329,000 acres; fifth group, 336,000 acres; sixth group, 111,000 acres; seventh group, 97,000 acres; and eighth group, 122,000 acres.

TABLE 22.—HOLDINGS IN TABLE 21 SHOWN CUMULATIVELY, BY GROUPS.

Groups.	Number of holders.	Acres.
Group 1 (over 600,000 acres each)	5	5,283,000
Groups 1 and 2 (over 270,000 acres each)	11	7,383,000
Groups 1 to 3 (over 130,000 acres each)	24	9,742,000
Groups 1 to 4 (over 75,000 acres each)	52	12,430,000
Groups 1 to 5 (over 50,000 acres each)	88	14,605,000
Groups 1 to 6 (over 30,000 acres each)	135	16,331,000
Groups 1 to 7 (over 18,000 acres each)	201	17,810,000
Groups 1 to 8 (over 10,000 acres each)	290	18,949,000

Attention is called to the high proportion of the total land area of Florida that is owned or leased by the few holders shown in Table 21 and summarized cumulatively, by groups, in Table 22. The land area of the State is 35,111,040 acres.[1] Of this no less than 18,949,000 acres, or 54 per cent, is held by 290 holders, ranging from 10,000 acres to 1,730,000 acres apiece. No less than 16,331,000 acres, or 46.5 per cent, is held by the 135 holders who have upwards of 30,000 acres each. The 24 holders of over 130,000 acres each have an aggregate of 9,742,000 acres, or 27.7 per cent of the area of the State. The five largest, with their 5,283,000 acres, hold over one-seventh of that area. When it is considered that there must be a number of holdings of very considerable size owned by holders who have no timber and who were not canvassed by the Bureau, it is clear that even the very great concentration shown by these tables is not the full measure of the concentration of land ownership in this State.

FIRST GROUP, FIVE HOLDERS (600,000 TO 1,730,000 ACRES EACH).—The first group consists of five holders having in the State of Florida from 600,000 to 1,730,000 acres each. These holders are as follows: (1) Consolidated Land Co., which is controlled by the Consolidated Naval Stores Co., 1,730,000 acres;[2] (2) Southern States Land & Timber Co., with 1,402,000 acres; (3) Empire Land[3] and National Timber companies, with 941,000 acres; (4) Florida Coast Line Canal & Transportation Co. interests, with 610,000[4] acres; (5) John Paul and East Coast Lumber Co., with 600,000 acres. The average size of these five holdings, it may be noted, is over 1,000,000 acres.

The officers, directors, and several of the important stockholders of the Consolidated Land Co. are officers or directors of a very considerable number of other important timber-owning and land-owning companies included in the lower groups of the table. These relationships are not known to amount in any case to a majority control of the companies referred to, but they do indicate an important degree of community of interest. The holders are counted as separate.

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[1] Abstract of the Thirteenth U. S. Census, p. 20.

[2] Including 67,000 acres reported as timber rights, but excluding 154,000 acres on which cypress only is owned, the fee and pine rights on which are owned by other holders included in lower groups of Table 21.

[3] The Empire Land Co. was one of the companies from which information was obtained in 1912. Its holding at that time was 734,000 acres; that of the National Timber Co., in 1907–8, was 207,000 acres.

[4] Minutes of the Trustees of the Internal Improvement Fund, Vol. IX, 1913, pp. 364–365, 377, show that about 18,000 acres of this land has recently been disposed of by the company.

The companies included as subsidiaries of the Florida Coast Line Canal & Transportation Co. are Boston & Florida Atlantic Coast Land Co., Land & Trust Co. of Florida, Walker Land & Trust Co., and New River Land Trust Co.

SECOND GROUP, SIX HOLDERS (270,000 TO 475,000 ACRES EACH).—The second group consists of six holders having from 270,000 to 475,000 acres each in Florida. The holders of this group are as follows: (1) R. J. Bolles, with 474,000 acres of nontimbered land in the Everglades; (2) R. J. & B. F. Camp Lumber Co. and Crystal River Lumber Co., with 375,000 acres;[1] (3) Model Land Co., with 355,000 acres;[2] (4) Cummer Lumber Co., with 318,000 acres;[3] (5) Dowling Lumber Co. (including stockholders), with 305,000 acres; and (6) Hillman-Sutherland Co., with 273,000 acres.[4]

The holdings of R. J. Bolles consist entirely of swamp lands contracted for from the trustees of the internal improvement fund. Title to a very large part of these has already passed by deed. A report on this holding was obtained in 1912. Reports for 1912 were also secured from the Crystal River Lumber Co., and from the Model Land Co.

The interests controlling the Model Land Co. have important stock holdings in the Florida East Coast Railway Co., which formerly had title to much of the land now held by the Model Land Co. The Minutes of the Trustees of the Internal Improvement Fund, Vol. IX, 1913, pages 598–619, show that the trustees on December 14, 1912, deeded to the Florida East Coast Railway Co. approximately 210,000 acres of Everglades land in compromise of claims of the company for 2,674,692 acres alleged to be due under old land grants to railroads to which the Florida East Coast is successor. This land is not the same as that shown here for the Model Land Co., and is not included in tables 21 or 22.

THIRD GROUP, 13 HOLDERS (130,000 TO 240,000 ACRES EACH).—The third group consists of 13 holders having from 130,000 to 240,000 acres each in Florida. These holders are as follows: (1) Putnam

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[1] Including 123,000 acres reported as timber rights.

[2] This is the figure reported by the company in 1912. It excludes 60,000 acres owned in fee which were credited to other holders who reported the ownership of timber rights on this land. The timber-right holders are members of lower groups in the table, excepting the Cummer Lumber Co., which reported timber rights on between 4,000 and 5,000 acres of this tract.

[3] Includes between 4,000 and 5,000 acres reported as timber rights, fee of which is owned by the Model Land Co.

[4] Includes 9,000 acres reported as timber rights.

Lumber Co., with 238,000 acres; (2) Aripeka Sawmill Co., with 232,000 acres;[1] (3) Myakka Land Co., with 193,000 acres; (4) Florida Land & Timber Co., with 189,000 acres; (5) Stearns & Culver Lumber Co., with 189,000 acres; (6) St. Joseph Land & Development Co., with 184,000 acres; (7) Southern Timber & Naval Stores Co., Florida Land Co., and affiliated companies, with 182,000 acres;[2] (8) J. P. Williams and J. P. Williams Land Co., with 177,000 acres; (9) B. Beacham, with 177,000 acres; (10) Wilson Cypress Co., with 164,000 acres;[3] (11) Hodges, O'Hara & Russell interests, with 155,000 acres;[4] (12) B. Parker et al., with 146,000 acres; and (13) McLeod Timber and Duluth Timber companies, with 133,000 acres.

The holdings in this group, on which reports were secured in 1912, are the Southern Timber & Naval Stores Co. (but not its affiliated companies) and the Wilson Cypress Co.

In connection with the holding of J. P. Williams and J. P. Williams Land Co., it may be noted that the Minutes of the Trustees of the Internal Improvement Fund, Vol. IX, 1913, pages 643–647, show the following facts: That, on December 27, 1912, the trustees passed a resolution that they would, without delay, convey to the Carrabelle, Tallahassee & Georgia Railroad Co. approximately 22,000 acres of Everglades land as a compromise for the residual claim of the company or its assigns to 513,005 acres alleged to be due it under a land grant. Representatives of the assignee of the company, being representatives of the Georgia, Florida & Alabama Railroad Co, and of J. P. Williams, president of the Georgia, Florida & Alabama Railroad Co., appeared before the trustees, and it was agreed that a contract, embodying the proposition in the resolution, should be executed between the trustees and the assignee as soon as evidence of the assignment by the Carrabelle, Tallahassee & Georgia Railroad Co. was produced. This tract of 22,000 acres is not part of the land here shown for J. P. Williams and J. P. Williams Land Co., nor is it included at all in Tables 21 or 22.

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[1] Including 28,000 acres reported as timber rights. Also included in the company's holding of 232,000 acres is a tract of 24,000 acres, on which the Aripeka Sawmill Co. has sold the cypress rights to F. E. Muller, but has retained the pine timber and fee.

[2] Includes 14,000 acres reported as timber rights and excludes 8,000 acres owned in fee on which timber rights have been sold to a holder in one of the lower groups.

[3] Including 18,000 acres reported as timber rights and 38,000 acres of cypress rights. The Bureau is not informed as to the ownership of the pine, if any, on these 38,000 acres, nor does it know the fee holder. The figure of 164,000 acres excludes 109,000 acres of cypress rights credited to other holders in the table who own the other timber on this land. Of the 109,000 acres, 44,000 is reported as owned in fee by the Dowling Lumber Co., 41,000 as owned in fee by John Paul, and 22,000 as timber rights owned by F. & H. A. Hodges.

[4] Including 22,000 acres reported as timber rights, on which, however, the Wilson Cypress Co. is reported as owning the cypress, and excluding 38,000 acres of fee land on which timber rights are reported by E. P. Rents Lumber Co., a member of the fourth group.

Section 3. Concentration of land ownership in Florida due chiefly to land grants.

The Bureau has not in the case of Florida done the tedious work of tracing out the present ownership of Federal and State grants, as was done in the Upper Peninsula of Michigan and in the map areas of Part II. But the general facts as to the grants in Florida are such as to make it practically certain that they were the chief cause of the concentration of land ownership and timber ownership now found.

FEDERAL LAND GRANTS.—The general subject of the Federal land grants to States has been explained briefly in Part I. Florida received under the congressional act of September 4, 1841, 500,000 acres as its quota for internal improvements.[1] Then under the swamp-land act of September 28, 1850 (sec. 2480, Rev. Stat.), it received from the Federal Government (up to Jan. 1, 1911) the immense amount of 20,207,723 acres of swamp and overflowed lands,[2] or practically three-fifths of its own area. In absolute acreage this was over twice as much swamp land as Congress placed at the disposal of any other State. For its common schools it had, as other States admitted before 1848, every section 16, if unappropriated, within its borders; and 92,160 acres as a grant for a State university (act of Mar. 3, 1845).[3] It also had 90,000 acres in scrip under the agricultural-college grant (act of July 2, 1862).[4] Besides, there was a small public-buildings grant in 1845.

In addition to these grants Congress granted lands, nominally to the State, but really for railroad construction between specified points, the State merely designating the companies that were to build the roads and acquire the lands. The Federal grants received by Florida for these railroads amounted to 2,206,941 acres. Some of the present large timber holdings consist in great part of lands originally included in the grants. The railroad companies, and the acreages they originally received from the Federal Government, were as follows:[5]

	Acres.
Florida Central & Peninsular	738,000.56
Florida & Alabama	166,691.08
Pensacola & Georgia	1,273,145.50
Florida, Atlantic & Gulf Central	29,103.74
Total	2,206,940.88

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[1] The Public Domain, p. 255.

[2] Eleventh Biennial Report of the Commissioner of Agriculture of the State of Florida, 1909–10, p. 648.

[3] The Public Domain, p. 228.

[4] Ibid, p. 230.

[5] Eleventh Biennial Report of the Commissioner of Agriculture of the State of Florida, 1909–10, p. 645. According to the records of the United States General Land Office, up to June 30, 1913, there had been patented to the Florida Central & Peninsular 731,711.77 acres; to the Florida & Alabama Railroad, 166,691.08 acres; to the Pensacola & Georgia Railroad, 1,279,236.70 acres; and to the Florida, Atlantic & Gulf Central Railroad, 29,384.18 acres, making the total grant on that date 2,207,023.73 acres.

Up to January 1, 1911, there had been patented to Florida, under ne various kinds of grants above referred to, 24,076,184 acres, as llows:

	Acres.
Internal-improvement grant, 1841	500,000
Swamp-land grant, 1850	20,207,723
School grant (sections 16), 1845	[1] 974,240
University grant, 1845	92,160
Public-buildings grant, 1845	5,120
Agricultural-college grant (scrip), 1862	90,000
Railroad land grants, 1856	2,206,941
Total	24,076,184

Thus, slightly more than two-thirds of the State's land area was in he control of the State government for such disposition as it saw fit o make within the terms set by Congress in the grants.

FLORIDA'S DISPOSAL OF ITS SWAMP LANDS.—By far the greatest of he grants that the State of Florida had at its disposal was the swamp-and grant. The drainage proviso attached to this grant and the Supreme Court's interpretation of it in cases arising in other States ave been noted in the foregoing chapter (pp. 205 to 210). In the present section, facts as to Florida's disposition of its swamp lands are given chiefly with reference to their bearing on the title of some of the large timber holdings comprised of swamp lands still undrained.

"*Internal Improvement Fund.*"—The State of Florida, by act of legislature January 5, 1855, created an "internal improvement fund" for the purpose of encouraging a liberal system of internal improvements. Devoted to this fund were (1) the 500,000 acres for internal improvements granted by act of Congress September 4, 1841,[2] and (2) the swamp lands granted by act of Congress September 28, 1850. The title to the lands in the internal improvement fund was irrevocably vested by the legislature in the trustees of the fund, the trustees being the governor and other State officers serving ex officio. The act creating the fund declared certain railroads and a certain canal proper objects to be aided from the fund. So far as railroads were concerned, it was provided that a grant be made of 6 sections of these lands per mile to railroads to be constructed over specified routes; that bonds be issued for these roads to the extent of $10,000 per mile, interest to be advanced by the State out of the internal improvement fund; and that the same railroads should have, in addition, any lands that the United States might grant the State for railroad construction. The following year Congress, by act of May 17, 1856, (11 Stat., 15) granted 6 sections of public lands per mile for railroads to be constructed within a time limit of 10 years, mainly over the same routes that had been specified by the State in its act.[1] The State's act further granted 6 sections of State land per mile to railroads that might subsequently be chartered to construct lines over other routes. It also provided for a canal from St. John's River to Indian River to be paid for in cash from the internal improvement fund, not to exceed $4,000 per mile; and in lands, to the extent of 4,000 acres per mile.

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[1] Estimated by General Land Office.

[2] Effective upon admission as a State of the Union, Mar. 3, 1845.

Provision was also made in the act for the sale of swamp lands at prices fixed by the trustees, and for settlement on them, a settler being allowed to preempt no more than 640 acres.[2]

That the aiding of railroads was conceived to be the main object of the internal improvement fund is shown by an act of the Florida Legislature approved December 22, 1859. This act authorized the trustees of the fund to pledge enough of the swamp lands on a certain river, or their value in money, to secure the drainage of the contiguous swampy areas, "Provided that the same does not conflict with the main object of the trust, the interest of the several railroads now being built in the State, and the interest of the holders of the internal improvement bonds."

Forfeiture of grants for uncompleted portions of railroads.—Even in 1881 part of the Florida railroads included in the Federal grant of 1856 were not yet built. In that year the previous grantee having failed to build the branch road from Ocala to Tampa, about 107 miles, the State granted to the Tropical Peninsular Railroad Co. the right to build it, together with the subsidy of six sections per mile previously made in 1855, and 10,000 acres per mile additional.[3] This act brought the total grant for this 107 miles up to 13,840 acres of the State lands per mile, besides the Federal grant of 3,840 acres per mile. The State also gave to the Pensacola & Atlantic Railroad Co. the right to construct the 161 miles of road yet unbuilt from Pensacola to Apalachicola River, and granted it not only the original State grant of six sections per mile, but also 20,000 acres per mile additional, making a total of 23,840 acres per mile, besides the 3,840 acres per mile granted by the Federal Government. On this state of facts the House Committee on Public Lands[4] in 1886 recommended the forfeiture of the Federal grants (1) opposite the 161 miles between Pensacola and Apalachicola River, which had been completed between 1881 and 1886, some 15 to 20 years after the required time limit, and the 20 miles which had been completed after time, in 1873; and (2) opposite the 150 miles from Waldo to Ocala and Ocala to Tampa,[1] of which 60 or more miles was even then uncompleted. The amounts forfeitable under the bill reported by the committee were estimated at about 695,000 acres on the Pensacola line and 576,000 on the Tampa line. The committee's position was that the right to forfeit clearly existed, and that, with such large grants from the State, the Federal grant was not necessary. Congress, however, refused to declare these grants forfeited, and consequently for these portions of the subsidized routes of Florida the railroads were entitled to receive 17,680 acres and 27,680 acres, respectively, per mile. The State, however, by act of May 30, 1889,[2] forfeited all swamp lands granted for railroad or canal construction lying opposite portions of the railroads or canals then uncompleted.

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[1] Both the State and Federal grants provided for railroads from Jacksonville to Pensacola; and from Amelia Island to Tampa Bay, with a branch to Cedar Key. The State grant further provided for two branches on the Jacksonville-Pensacola route; and the Federal grant provided for a line from Pensacola northward to the Alabama boundary, for which line the State by a subsequent act also made a grant.

[2] Laws of Florida, 1855, p. 40.

[3] Ibid., 1881, p. 153.

[4] H. Rept. No. 2437, 49th Cong., 1st sess., vol. 8, 1885-6.

Failure to fulfill condition as to drainage.—The Minutes of the Trustees of the Internal Improvement Fund, published in several volumes, give the history of the attempts of the trustees and the State to administer the fund and the grants thereunder; of prolonged litigation with the railroads; of State receiverships for railroads defaulting to the State on their State guaranteed bonds; of vast drainage projects which largely failed to drain and served only to dissipate the grant; of canal digging in the Everglades by the State itself and the continuance of the work by private contractors. The legal status of the remnant of the grant, complicated by the fact that railroad grants of doubtful validity were made by the legislature without knowing whether the State had received, or ever would receive land enough to satisfy them, is also explained in the later volumes of the Minutes.[3]

Before presenting the tables showing in detail the State's disposition of the swamp-land grant, it is desirable to give two extracts from the Minutes of the Trustees, which give a general idea of the policies under which this vast grant was managed and the results thereof, and which show how far the administration of the grant has been from accomplishing the object expressed in the condition of the Federal act of 1850. One of these, in the nature of a defense of the management of the grant, was written by the trustees in office in 1888; the other, written 20 years later by the general counsel of the trustees, was a criticism of the early policy of the management of the grant as failing to attain the purposes of the trust.

The 1888 statement was occasioned by the fact that a subcommittee of the Committee on Public Lands of the United States Senate had telegraphed the governor of Florida inquiring whether he wished to be heard in the matter of an allegation "concerning fraudulent conveyances of public land in the State of Florida," a matter then before the subcommittee. In response to this telegram the trustees of the internal improvement fund, in the course of a communication to the subcommittee, under date of September 5, 1888, said:[1]

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[1] On definite location of this line, see S. Doc. No. 91, 48th Cong., 1st sess., vol. 5, 1885-6.

[2] Florida Rev. Stat., 1892, sec. 442.

[3] Cf. especially Minutes of Trustees of Internal Improvement Fund, Vol. VII, 1909, pp. 519-548.

> The Swamp Lands granted to the State by the Act of Congres[8] of Sept. 28, 1850, were by the Statute of Florida of January 6, 1855, vested in the Trustees of the Internal Improvement Fund, the Governor, Comptroller, Treasurer, Attorney General, and Commissioner of Lands and Immigration being ex-officio such Trustees. The trusts to which the lands are devoted by the original act and all amendatory acts are all in the direction of drainage and reclamation of the lands, but may be divided as to the means by which that end is to be accomplished into three, viz: (1) Internal improvements by railroads and canals, (2) drainage by works devoted immediately to that purpose, (3) encouragement of actual settlement of and cultivation of said lands by allowing pre-emptions not exceeding one section to any one settler. See Secs. 1, 2, 19, 40, McClellan's Digest Laws of Fla. Secs. 16, 29, of original act. A number of the railroad companies in the State have special land grants from this fund, varying in quantity, but subject to the general trusts of the act creating said Fund and its amendments; and every railroad or canal company incorporating under the general incorporation acts of the State becomes entitled to receive the alternate sections of land within six miles of its line, and indemnity within twenty miles, as the road or canal is completed in sections of six miles, as approved by Chapter 3166 Acts of 1879. Prior to the late war, a line of railroad was built from Fernandina on the Atlantic, to Cedar Keys on the Gulf Coast, and a line was built from Jacksonville in the direction of Pensacola as far as Quincy, and a road from Tallahassee to St. Marks, in all about 400 miles of road. The interest on the bonds of these roads was, under the Statutes, guaranteed by said fund including said swamp lands,—during and after the war default in payment of such interest was made by the railroads and the said Internal Improvement Fund; in 1871 suit was begun on behalf of bondholders in the United States Circuit Court, in process of which a receiver of these lands was appointed, and they remained subject to the control of that court, although managed by the Trustees with the approval of the Court, until relieved by the Disston sale as hereinafter stated—Vose vs. Reed et al Trustees, 1 Woods U. S. Cir. Ct. R. 647; Vose vs. Trustees I. I. Fund of Fla. 2 Id. 647. These coupons with interest amounted to considerably more than a million of dollars, and the ordinary sales of the lands did not suffice to keep the debt from increasing, but the fund was being eaten up by compound interest, costs, receivers allowances, and other expenses of litigation, and it was obvious that only by making a sale of a considerable quantity of the lands at one time could the fund be saved. After endeavoring for several years both in the United States and in Europe, without success, to

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[1] Minutes of Trustees of Internal Improvement Fund, Vol. III, 1904, pp. 508-514.

make such a sale, the Trustees finally succeeded in 1881, in selling four million acres of these lands, with the approval of the United States Circuit Court, to Hamilton Disston, of Philadelphia, for one million dollars. By this sale nearly all the debts of the fund were paid, the remaining lands were released, liberal provisions were made for settlers as hereinafter stated, contracts were made for extensive works for drainage and reclamation of such lands, and about fifteen hundred miles of railroads have been since built in the State, all aided from said fund and the most of them chiefly on the credit of lands received from said fund, in addition to the roads previously built by the aid of the fund. By these means transportation has been opened through all sections of the State, immigration has been brought in, the settlement of the country greatly facilitated, the value of the remaining State lands and of the United States lands increased, and much drainage and reclamation of these swamp lands accomplished. By these means in large part, the assessed property for taxation in the State has increased in value from about thirty million dollars in 1881, to about eighty-six million dollars in 1887, and the taxes of the people have been greatly reduced. In addition to facilitating drainage by opening up the country, furnishing transportation and increasing settlement, the specifications for construction of all railroads receiving lands from the fund contain requirements as to ditches, and these hundreds of miles of ditches do accomplish some drainage of such lands. It has been held by the Supreme Court of the United States that the grant of swamp lands was in presenti, that no trust attached to the lands, and that title to them derived from the State is not affected by the manner in which the State has performed her obligation as to drainage and reclamation of them—Mills County vs. R. R. Cos. 107 U. S. 557; Wright vs. Roseberry, 121 U. S. 488. But the Supreme Court of Florida has decided that the construction of railroads is a legitimate means of drainage and reclamation of these lands—St. Johns Railway Co. vs. Trustees I. I. Fund, 16 Fla. 531. A large quantity of the swamp lands have been expended specifically in the drainage of such lands and the Trustees of said fund have from time to time, through the whole course of the management of such fund, made contracts and expended portions of such swamp lands in drainage of such lands, the largest of such contracts being with the Atlantic and Gulf Coast Canal and Okeechobee Land Company, wherein over a million acres of such lands have been expended in drainage, and with which company said Trustees now have a contract for the prosecution of the work of drainage by the expenditure of over three hundred and thirty thousand dollars.

In 1908, Hon. W. S. Jennings, general counsel for the trustees, and formerly governor of Florida and a member of the board, in discussing the relative advantages of a policy of State reclamation and drainage of the Everglades as compared with reclamation and drainage under a private-contract system, gave the following account of how the State deeded great areas of swamp lands to railroads and drainage companies without securing any appreciable degree of drainage or reclamation:[1]

> Among the early contracts entered into by the Trustees of the Internal Improvement Fund of much magnitude, was [that] entered into in the early part of April, 1881, growing out of a proposition made by Hamilton Disston[2] for the drainage and reclamation of the lands overflowed by the waters of and adjacent to Lake Okeechobee and the Kissimmee River, Vol. 2, folio 432, Printed Minutes, Contract 463 ib. 437, ib. 480 ib. and 503 ib.
>
> In this contract it was agreed, among other things in effect that Disston and his associates undertake at their own expense and charge, to drain and reclaim by drainage all overflowed lands of the State of Florida, practicable and lying south of Township Twenty-three and east of Peace Creek, belonging to the State of Florida, or said Internal Improvement Fund, now subject to overflow by Lake Okeechobee, the Kissimmee River and its branches, and the lakes contiguous to said river, whose waters now flow into River or Lake Okeechobee, or into the Caloosahatchee River, or Miami River, or other outlets, by cuts or canals, including both those already patented, as well as those that may hereafter be patented to said State by the United States, the said lands to be reclaimed and drained and rendered *fit for cultivation by permanently lowering and keeping reduced the waters of Lake Okeechobee*, and thereby permanently lowering and keeping reduced the high water level of said river, and by thus lowering the waters of said lake, creating an increased current in said river, and by the increased current thus created causing the bed of said river to cut or wash out, and by these means and by cutting off bends in said river to further increase the current of said river and permanently confine the water-flow of said river within its natural banks, and *thereby effectually and permanently prevent the overflow of its banks; it being understood and agreed that the drainage, reduction or lowering of the waters of Lake Okeechobee* may be made by a series of cuts or canals from the waters of said lake to the Caloosahatchee River on the west, and by cuts and canals from said lake eastwardly to the waters of the St. Lucie, or other available points, and also by cuts or canals southwardly to some stream or streams through the Everglades, and also by cuts or canals on the southeast side of the Everglades to the Miami River and to any small stream heading or rising in the Everglades; provided, however, that no canals or cuts shall be made, dug or constructed unless the same be necessary to reduce the waters of said Lake Okeechobee, to effect the said object of drainage and permanently reclaiming said lands. Vol. 2, page 464–465.
>
> The Trustees of the Internal Improvement Fund agreed in effect upon their part and their successors to pay, give, grant, convey and deed the alternate sections of land, belonging to the State or to their Fund now patented, or that may be hereafter acquired, within the limits of this contract, which may be

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[1] Minutes of the Trustees, Internal Improvement Fund of the State of Florida, Vol. VII, 1909, pp. 416–430.

[2] This drainage proposition by Hamilton Disston was distinct from his purchase of 4,000,000 acres from the trustees, and involved different lands.—Bureau of Corporations.

reclaimed and thus rendered fit for cultivation; such lands to be conveyed in such quantities and at such times as may be justified by the progress of the work, and will be equitable and just to the said parties hereto, it being mutually agreed that the policy of the Board of Trustees will at all times be such as not to pay in excess of the work done, and yet to such extent and at such times as will facilitate and aid the faithful performance of the covenants of the parties of the first part. Vol. 2, page 466, Printed Minutes.

It will be observed from the provisions of this contract that it embraces as a drainage district an area approximating 9,000,000 acres of land.

THE EVERGLADES INCLUDED.

The lands commonly referred to as the "Everglades" since described and patented to the State of Florida by the United States, it will be seen is a part of the land included in the foregoing contract, and to be drained and reclaimed under the provisions thereof.

* * * * * * *

PROGRESS AND RESULT.

Meager information may be gathered from the Minutes of the Trustees of the Internal Improvement Fund touching the progress of the work and the result thereof, which, coupled with extraneous information to be supplemented by a personal observation and knowledge of a general character, justify the estimation that approximately 90 miles of canal were constructed.

THE KISSIMMEE CANALS.

Under the provisions of the foregoing contract and amendments and supplements thereto, canals and cuts were made * * * making an approximate total of 90 miles of canals cut, 70 miles of which being in the vicinity of the town of Kissimmee, connecting certain lakes on the Kissimmee River in the Kissimmee Valley, a distance of approximately 300 miles northwest of Lake Okeechobee, and upon an elevation and more than 100 feet above the level of Lake Okeechobee, the nearest cut to Lake Okeechobee being more than 90 miles distance therefrom, resulting in a greater increased water flow into Lake Okeechobee, instead of *permanently lowering the waters therein*, as provided for in the contract.

It will be observed that there is no reference in said contract to the Kissimmee River, nor to the lakes in the vicinity of the Town of Kissimmee, connecting with the Kissimmee River in the Kissimmee Valley, neither is the direction in which said canals have been cut within the provision and plan of drainage to *reduce and lower the waters of Lake Okeechobee*, nor the connecting of the lakes in the Kissimmee Valley with the Kissimmee River, the result of the work in the Kissimmee Valley had the effect of temporarily reclaiming a few acres of lands under favorable weather conditions when there was a comparatively slight overflow, but without permanency, or permanently reclaiming any considerable acreage of said territory making it permanently fit for cultivation.

THE CALOOSAHATCHEE CANALS.

Some progress was made by the cutting of a shallow, narrow canal from a point on the Coloosahatchee River, beginning at the falls, near Fort Thompson, extending through Lake Flirt and from Lake Hicpochee extending into Lake Okeechobee, which, however, have been a failure under the provisions of said contract, inasmuch as they have not been the means of permanently reclaiming and draining and rendering fit for cultivation any known acreage of the swamp and overflowed lands mentioned in said contract, neither has it lowered nor kept permanently reduced the waters of Lake Okeechobee or reduced the water level of said river.

THE SOUTH CANAL.

There is evidence of another effort on behalf of the contracting parties under the provisions of said contract, and amendments and supplements thereto, to cut a canal southerly, mentioned in the contract to some stream or streams through the Everglades. Their purpose appears to have been to cut a canal beginning at a point south of Lake Okeechobee, near the range line, dividing ranges 35 and 36, extending southward about 10 miles in length, 40 feet wide and 8 feet deep, but this canal has no outlet, and is otherwise ineffectual in lowering the water of Lake Okeechobee, or to the reclaiming of an acre of land, even temporarily; therefore it follows that no known or considerable acreage, exceeding by estimation 25,000 acres in the entire area of 9,000,000 acres embraced in said drainage district and contract has been reclaimed by means of said canals, moreover, from the best information obtainable at this writing, the statement is justified that the waters in Lake Okeechobee and in the Everglades have not been permanently lowered or reduced by the cutting of said canals, as evidenced by the fact that the waters in Lake Okeechobee have been for some years past, and are at the present time equally as high as during any period of high water at or before the date said contract was entered into in the early part of the year 1881.

LANDS DEEDED.

Notwithstanding, it is a matter of common knowledge that 1,652,711.80 acres of lands have been deeded by the Trustees of the Internal Improvement Fund under said contract to the said drainage contractors, or the Atlantic and Gulf Coast Canal and Okeechobee Land Company, the accepted successor of Hamilton Disston and his associates under said contract, and in addition thereto, suits have been instituted in the State Courts to compel you as Trustees of the Internal Improvement Fund to deed 347,288.20 acres of land claimed by the successor to the last named company under said contract, and amendments thereto and other reservations made incident thereto by Trustees prior to the year 1901.

FLORIDA COAST LINE CANAL AND TRANSPORTATION COMPANY.

* * * * * * *

Section 1 of Chapter 3641, Laws of 1885, reads as follows: "That the State of Florida hereby grants to the Florida Coast Line Canal and Transportation Company a sufficiency of lands to make up the deficiency of the grants heretofore made to it of 3,840 acres per mile, caused by and on account of Spanish and other grants contiguous, and the water of the Atlantic Ocean adjacent to it on the east interfering, the said deficiency to be determined by the Trustees of the Internal Improvement Fund, and the amount found to be due said company to be selected by said company from even and odd numbered sections lying nearest to its line of improvements, not to exceed ten miles, for making navigable for an extended commerce at all seasons and stages of water the lagoons and creeks and rivers, for their whole length, by dredging the shallow places or oyster and sand bars, which now prevent it." This grant was extended from time to time to 1905, when the act purporting to extend said grant was vetoed by Governor Broward.

It appears from the Minutes of the Trustees of the Internal Improvement Fund, that these Legislative land grants were presented from time to time, together with their acceptance, to the Trustees of the Internal Improvement Fund for approval and compliance therewith, as also with other questions, such as was presented in the communication as of the 14th of March, 1889, in which the Trustees were requested to pass upon the question as to whether said company under said legislative land grant of February 6, 1885, will be entitled to lands for the entire distance between the terminal points of its canal, including the natural waterways already navigable which it will connect, or only to lands for the mileage of actual work done in opening channels over flats and shoals, widening and deepening creeks and rivers, and cutting out land divides between such natural waterways so as to connect them. Vol. 4, page 20, Printed Minutes.

Upon the consideration of this question, it was resolved by the Trustees that the canal company would only be entitled to lands on a computed mileage of constructed canal, natural waterways not to be included, which resolution, however, was afterwards rescinded, leaving the question open and undetermined, March 9, 1886, and further reference was made to the same proposition March 26, 1889. * * * What was the purpose of this canal? If for commerce and transportation, according to the acts of the Legislature, and many references thereto in the Minutes of the Trustees, it was clearly outside of the scope and purpose of the grant under Act of Congress of September 28, 1850, granting the swamp and overflowed lands within the State of Florida to the State for the purpose of drainage and reclamation. * * *

RESULTS.

The result of this work extending over a quarter of a century, notwithstanding the cutting of several lagoons, cuts and canals, which for the purposes of this opinion may be admitted to be successful for transportation of light draft craft for the transportation of nonperishable freight and for small pleasure craft, it must likewise be admitted that for the purposes of drainage and reclamation of swamp and overflowed lands, it stands unexcelled as a failure, for with the exception of a very few hundred acres, in the immediate vicinity of and abutting the canal, no lands have either been drained or reclaimed by it.

LANDS DEEDED.

For the work upon these canals, and presumably under the acts of the Legislature aforesaid, the Trustees of the Internal Improvement Fund, from time to time, prior to 1901, deeded to said canal company 595,778.69 acres of swamp and overflowed lands of said Fund.

* * * * * * *

RAILROAD LAND GRANT CONTRACTS.

Several acts of the Legislature were passed, making land grants to railroads and canal companies, which I shall not undertake to enumerate here, all of which are to be found in the printed laws and easily accessible, a few instances may be cited, however, in this connection.

Among the early legislative enactments purporting to grant swamp and overflowed lands to railroad companies of the domain granted to the State of Florida under Act of Congress of September 28th, 1850, was contained a provision, amongst others, to the effect that the State of Florida grants to the said railroad * * * ten thousand (10,000) acres of land for each mile of road which it may construct, of lands granted to the State under Act of Congress September 28th, 1850, subject, however, to all of the trusts to which said fund is applicable and subject under the act approved January 6, 1855. (Sec. 5, Chapter 3170) (Sec. 7, Chapter 3171) (Sec. 11, Chapter 3173.) And a similar provision in apparently all of the enactments or laws touching on the subject, either in the acts themselves or by the General Statutes on the subject enacted 1881, Chapter 3326, Section 240, Revised Statutes of Florida.

The main trust referred to in the Act of 1855 referred to in these smaller land grants, was the plan to reclaim and make fit for cultivation the swamp and overflowed lands belonging to the Internal Improvement Fund, such provision is followed by one of these various acts granting alternate sections of land lying on each side and within six miles of the railroad to be constructed by said company, etc., "Provided, that said company complies with the provisions of an Act providing for the encouragement of a liberal system of Internal Improvement in this State approved January 6th, 1855, and the amendments thereto, as to the manner of constructing the road and drainage." Many similar provisions could be cited, but these are sufficient to show that such enactments must have been upon the theory that these legislative grants were in aid of the drainage and reclamation of the swamp and overflowed lands of the State within the meaning of the Act of Congress of September 28, 1850, and of the provisions of Chapter 610, Laws of Florida, vesting the legal title to the lands in the Trustees of the Internal Improvement

Fund and their successors in office with an expressed trust to be performed under the powers granted and duties prescribed, the main trust being the drainage and reclamation of the swamp and overflowed lands of the State of Florida.

CONTRACTUAL FORCE.

The evident observance by the then Trustees of some contractual force of such legislative land grants to railroad companies for the purpose, as expressed in said grants, "to aid in constructing said railroads and drainage," is apparent.

PROGRESS AND RESULTS.

Thereupon, certain railroad companies proceeded to construct many miles of railroad, apparently under the provisions of these legislative grants of land, and received deeds to a large area of the swamp and overflowed lands of the Internal Improvement Fund by the Trustees thereof, aggregating approximately 8,000,000 acres of land leaving a balance claimed by the railroads and their assignees in 1900 of upwards of 5,500,000 acres of land which was approximately that acreage in excess of the total acreage then patented to the State.

CERTIFICATES.

In addition to the lands heretofore granted to the various railroad companies referred to, as having been deeded, certain certifications were issued from time to time, about the year 1888, of which there remained outstanding at the close of the year 1900 upwards of 700,000 acres so contracted in aid of said railroads. The standard form of these certificates being to recite in the preamble to the various acts of the Legislature as heretofore referred to, granting said acres of lands to said railroad companies, that in consideration of the premises and in conformity with the Act of the Legislature aforesaid, do hereby certify that said railroad company (naming it) is entitled to said lands, particularly describing the same therein, whenever the same shall have been patented by the United States under Act of Congress of September 28, 1850, and that upon receipt of such patent by the State the said Trustees will convey said lands to the said company, its successors and assigns, etc.

RESULTS.

The result of these undertakings by the railroads under these grants of aid to the feature of drainage and reclamation of swamp and overflowed lands under the grants cited, has been so diminutive that no record has been made that I have ever been able to find.

R

LITIGATION.

You are not unmindful of the fruitful source of litigation that followed these contractual undertakings herein above cited, it has not only been prolonged and expensive to the Fund, but has at times the appearance of imperiling the entire Fund.

SUMMARY.

> Without further inquiry or citation, it would appear that under the first policy named, and apparently under the provisions of the contracts entered into by the Legislature of the State of Florida and the Trustees of the Internal Improvement Fund looking to the drainage and reclamation of the swamp and overflowed lands under the provisions of said acts and Federal and State laws and amendments thereto, the accomplishment and cost thereof may be summarized as follows:
>
> (a) That there have been constructed approximately 90 miles of unsuccessful drains and canals.
>
> (b) That temporary or partial drainage and reclamation of an area of land not exceeding 100,000 acres of land under the contractual system during a quarter of a century.
>
> (c) That the Internal Improvement Fund has contributed under said contractual instruments by duly executed deeds to said railroad and canal companies upward of 10,000,000 acres of land not including 700,000 acres or more held in certificates issued to said railroad companies.

Since the date of the above quotation the State itself and contractors under its direction have dug many miles of canals in an effort to reclaim the Everglades.

Tabular statements showing disposition of Florida swamp lands.—In the administration of 1901–1905 the trustees, in connection with the publication of the Minutes of the Trustees from the beginning, made an exhaustive search of the records, and as a result of these labors published tables showing the complete status of the lands of the fund and of the grants. These tables have since been kept up to date. Thus, the tables in the biennial report, issued in 1911 by the Florida State Commissioner of Agriculture, who is ex officio a member of the trustees, summarize the State's disposition of its vast swamp-land grant, as follows (Tables 23, 24, and 25):

TABLE 23.—STATEMENT SHOWING THE STATUS OF ALL SWAMP AND OVERFLOWED LANDS PATENTED TO THE STATE [OF FLORIDA] PRIOR TO JANUARY 1, 1911, UNDER ACT OF CONGRESS OF SEPTEMBER 28, 1850.[1]

[This table does not indicate present owners, but the original grantees of the State.—Bureau of Corporations.]

Number of acres patented to the State		20,207,722.78
Number of acres conveyed to railroad companies	8,787,661.33	
Number of acres deeded to canal & drainage companies	2,779,772.68	
Number of acres deeded E. N. Dickerson in 1867 for coupons of Florida R. R. bonds, which fell due prior to 1866	248,602.98	
Number of acres deeded Wm. E. Jackson in 1868 for coupons of Florida, Atlantic and Gulf Central R. R. bonds	113,064.80	
Wells & Randolph, agents of the State to select swamp and overflowed lands, under contract with the Governor of Florida of Nov. 8, 1851, received the proceeds from sale of about	100,000.00	
Number of acres deeded on account of L. G. Dennis, agent of the State to procure and receive patents for swamp and overflowed lands at Washington, under contract with the Governor of Florida of Nov. 10, 1875 (see orders of trustees of July 5, 1881, and April 14, 1883)	5,800.27	

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[1] Eleventh Biennial Report of the Commissioner of Agriculture of the State of Florida, 1911; p. 645.

Number of acres deeded on account of Williams & Swann, agents of the State to select swamp and overflowed lands, under contract with the trustees of the Int. Imp. Fund of March 5, 1871	30,450.22	
(Other lands were deeded on account of W. & S., under above contract, belonging to the Int. Imp. Fund proper, embracing 4,837.98 acres, are not embraced in this statement, as they were not swamp and overflowed lands.)		
Number of acres deeded on account of Williams, Swann & Corley, agents of the State to select swamp and overflowed lands under contract with the trustees of the Int. Imp. Fund of May 18, 1873	13,542.61	
(Other lands were deeded on account of W., S & C., under above contract, belonging to the Int. Imp. Fund proper, amounting to 15,163.56 acres which are not embraced in this statement, as they were not swamp and overflowed lands.)		
Number of acres deeded on account of Sydney I. Walles, agent of the State to procure patents for swamp and overflowed lands at Washington, under contract with the trustees of the Int. Imp. Fund of April 13 and Oct. 19, 1878	224,562.80	
Number of acres deeded on account of John A. Henderson, agent of the State to select swamp and overflowed lands under contract with the trustees of the Int. Imp. Fund of March 15, 1884	164,124.68	
Number of acres deeded on account of S. W. Teague, agent of the State to select swamp and overflowed lands under contract with the Trustees of the Int. Imp. Fund of March 22, 1902	5,778.37	
Number of acres deeded in Disston sale	4,000,000.00	
Number of acres deeded to all other persons	2,345,070.81	
Total disposed of		18,827,461.70
Leaving balance on hand Jan. 1, 1911		1,380,261.08

The railroads and the canal and drainage companies who were the original grantees, respectively, of the 8,787,661 acres and the 2,779,773 acres shown in Table 23 are listed, together with the acreage received by each, in the following tables (Tables 24 and 25):

TABLE 24.—STATEMENT SHOWING ALL SWAMP AND OVERFLOWED LANDS CONVEYED TO RAILROADS [BY THE STATE OF FLORIDA] TO JANUARY 1, 1911.[1]

[This table does not indicate present owners, but the original grantees of the State.—Bureau of Corporations.]

Name of railroad.	Acres.
Alabama and Florida (from Pensacola to Georgia line)	27,613.32
East Florida Railway Company (Jacksonville to St. Marys River)	15,731.29
Fernandina and Jacksonville Railway Co	23,649.98
Florida, Atlantic and Gulf Central (Jacksonville to Lake City)	164,568.21
Florida Railroad (Fernandina to Cedar Key and from Waldo to Tampa)	505,144.14
Florida Midland Railway Company	12,856.79
Green Cove Springs and Melrose Ry. Co	7,781.48
Jacksonville, St. Augustine and Halifax River Railroad Company	56,782.15
Jacksonville and Atlantic R. R. Company	21,501.62
Jacksonville, Mayport, Pablo Railway and Navigation Company	10,837.88
Live Oak and Rowlands Bluff R. R. Company	3,253.21
Orange Belt Railway Company	88,687.92
Pensacola and Georgia Railroad (Lake City to Tallahassee)	65,561.77
St. Johns and Lake Eustis Railroad	14,725.90
Sanford and Indian River Railroad Co	6,192.88
St. Johns and Halifax Railroad, changed to St. Johns and Halifax River Railroad Co.	110,398.58
St. Augustine and Palatka Railway Co	41,510.29
St. Johns Railway Company	42,315.16
Tavares, Orlando and Atlantic Railroad Co	4,002.44
Western Railway of Florida (lands not reconveyed)	2,840.00
Florida Southern Railway, formerly Gainesville, Ocala and Charlotte Harbor R. R.	2,655,482.08
Jacksonville, Tampa and Key West Railway, formerly Tampa, Peace Creek and St. Johns River Railroad	1,474,129.30
Silver Springs, Ocala and Gulf Railroad	363,600.29
Pensacola and Atlantic Railroad	2,214,024.37
Palatka and Indian River Railway	470,571.84
Carrabelle, Tallahassee and Georgia Railroad, formerly Augusta, Tallahassee and Gulf Railroad; formerly Thomasville, Tallahassee and Gulf Railroad	183,970.30
Blue Springs, Orange City and Atlantic Railroad	118,498.09
South Florida Railroad (from Sanford to Kissimmee)	72,428.55
Total	8,787,661.33

NOTE.—In conveyance to Florida Railroad there are embraced 23,273.58 acres Internal Improvement lands proper.

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[1] Eleventh Biennial Report of the Commissioner of Agriculture of the State of Florida, 1911; p. 643.

TABLE 25.—STATEMENT OF SWAMP AND OVERFLOWED LANDS CONVEYED TO CANAL AND DRAINAGE COMPANIES [BY THE STATE OF FLORIDA] TO JANUARY 1, 1911.[1]

[This table does not indicate present owners, but the original grantees of the State.—Bureau of Corporations.]

Name of company.	Acres.
H. L. Hart for removing obstructions from Ocklawaha River	23,356.18
Atlantic and Gulf Coast Canal and Okeechobee Land Company	1,721,530.40
Florida Coast Line Canal and Transportation Company	1,030,559.63
Etoniah Canal and Drainage Company	4,326.47
Total	2,779,772.68

[1] Eleventh Biennial Report of the Commissioner of Agriculture of the State of Florida, 1911; p. 644.

These tables show that out of 18,827,462 acres disposed of by the State, 8,787,661 have gone to railroads; 2,779,773 acres to canal and drainage companies; 4,000,000 in a single sale to Hamilton Disston in the 80's; 553,289 to the State land agents for selecting the land and securing patents; and only 2,706,739 in all other ways. The Disston sale was at a price of only 25 cents an acre. The land sold to Disston, and much of the land sold in smaller amounts, was disposed of to meet the interest charges on defaulted railroad bonds guaranteed by the State. It is to be observed that these tables show merely the original disposition of the land by the State. The railroads, canal companies, and other original grantees have very largely transferred their holdings to other parties.

This is not the place to discuss the legal complications that have involved the administration of the grant, nor the question of the force and continuing validity of the provision as to drainage and reclamation laid down by Congress in 1850, nor the effect of the payment of drainage taxes by holders in certain districts, nor the results of the many miles of Everglades canals dug in recent years by the State and its contractors. But it is certain that, however title to these lands was obtained, a large proportion of them, on investigation, would now be found, more than 60 years after the grant, still owned in vast blocks by timber owners reported to the Bureau—either railroad or canal companies, drainage companies, timber investment concerns, or operating lumbermen—and still undrained. The holdings of the Consolidated Land Co., the Southern States Land & Timber Co., the Empire Land and National Timber companies, the Florida Coast Line Canal & Transportation Co. interests, R. J. Bolles, the Model Land Co., and many others were originally without doubt in very large part land-grant lands.

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